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No. _____

IN THE

Supreme Court of the United States

October Term, 1984

THE DOW CHEMICAL COMPANY,

Petitioner,

versus

UNITED STATES OF AMERICA
BY AND THROUGH ADMINISTRATOR,
ENVIRONMENTAL PROTECTION AGENCY,

Respondent.

PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SIXTH CIRCUIT

– AND APPENDIX –

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QUESTIONS PRESENTED

I.

HAS THIS COURT'S DECISION IN *OLIVER* v. *UNITED STATES*, __ U.S. __, 80 L.Ed.2d 214 (1984), WHICH HELD AN AGRICULTURAL FIELD TO BE AN "OPEN FIELD", MODIFIED EARLIER HOLDINGS OF THIS COURT TO SUCH AN EXTENT THAT A HIGHLY SECURED YET OPEN-AIR MANUFACTURING FACILITY IS AN "OPEN FIELD" WITH NO REASONABLE EXPECTATION OF PRIVACY IN THE MINUTE DETAILS OF ITS COMPLEX PLANT FROM THE INTRUSIVE, VISUALLY AIDED SURVEILLANCE FROM THE AIR?

II.

DOES SUBSECTION 114(a) OF THE CLEAN AIR ACT AUTHORIZE THE ENVIRONMENTAL PROTECTION AGENCY TO UTILIZE AERIAL RECONNAISSANCE PHOTOGRAPHY AS A SITE INSPECTION TECHNIQUE?

TABLE OF CONTENTS

	Page
QUESTIONS PRESENTED	i
TABLE OF AUTHORITIES	iv
PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SIXTH CIRCUIT	1
OPINION BELOW	1
JURISDICTION	2
CONSTITUTIONAL AND STATUTORY PROVISIONS	2
STATEMENT OF THE CASE	4
REASONS FOR GRANTING THE WRIT	7
I. THE DECISION IS INCONSISTENT WITH THIS COURT'S OPINIONS IN *OLIVER* v. *UNITED STATES*, 80 L.Ed.2d 214 (1984); *MARSHALL* v. *BARLOW'S INC.*, 436 U.S. 307 (1978); *AIR POLLUTION VARIANCE BOARD* v. *WESTERN ALFALFA CORPORATION*, 416 U.S. 861 (1974); AND *KATZ* v. *UNITED STATES*, 389 U.S. 347 (1967)	9
A. Detailed Aerial Photography Versus Mere Aerial Observation	10
B. A Secured, Developed Industrial Facility Is Not An Open Field	11
C. The Open Fields Doctrine Has Limited, If Any, Application To Cases Where Sophisticated, Intrusive Surveillance Devices Are Employed To Seek Evidence Without Consent Or Judicial Authority	12

Page

II. SECTION 114(a) OF THE CLEAN AIR ACT DOES NOT AUTHORIZE, EITHER EXPLICITLY OR BY LACK OF PROHIBITION, THE USE OF AERIAL PHOTOGRAPHY AS AN INVESTIGATION TOOL 14

A. The Decision Is Inconsistent With Congressional Intent As Shown By The Plain Meaning Of The Statutory Language . . 15

B. The Decision Is Inconsistent With The Clean Air Act's Provision Protecting Trade Secrets And With Existing Tort And Criminal Law 16

CONCLUSION 17

APPENDIX A-1–G-4

TABLE OF AUTHORITIES

CASES:

Air Pollution Variance Board v. *Western Alfalfa Corp.*, 416 U.S. 861 (1974) 9, 10, 13, 18

Chevron, U.S.A., Inc. v. *Natural Resources Defense Council, Inc.*, 467 U.S. ___, 81 L.Ed.2d 694 (1984) 16

Consumer Product Safety Commission v. *G.T.E. Sylvania, Inc.*, 447 U.S. 102 (1980) 16

DuPont v. *Christopher*, 431 F.2d 1012 (5th Cir. 1970) 17

Federal Trade Commission v. *Raladam Company*, 283 U.S. 643 (1931) 16

Page

Hester v. *United States*, 265 U.S. 57 (1924) 12

Katz v. *United States*, 389 U.S. 347 (1967) . . 9, 13, 18

Kewanee Oil Company v. *Bicron Corporation*, 416 U.S. 470 (1974) 8, 17

Marshall v. *Barlow's Inc.*, 436 U.S. 307 (1978) 9, 13, 18

Oliver v. *United States*, — U.S. —, 80 L.Ed.2d 214 (1984) 9, 12, 18

Olmstead v. *United States*, 277 U.S. 438 (1928) . . 13

United States v. *Kim*, 415 F. Supp. 1252 (D.Ha. 1976) 10, 13

United States v. *Taborda*, 635 F.2d 131 (2nd Cir. 1980) 10, 13

STATUTES:

5 U.S.C. § 552 5

5 U.S.C. § 701 4

18 U.S.C. § 1385 15

18 U.S.C. § 2510 15

28 U.S.C. § 1254(1) 2

28 U.S.C. § 1331 4

28 U.S.C. § 1337 4

28 U.S.C. § 1361 4

28 U.S.C. § 2201 4

28 U.S.C. § 2202 4

42 U.S.C. § 7414(a) (§ 114 Clean Air Act) 2, 7, 14-16

42 U.S.C. § 7414(c) 3, 4, 16

Page

M.C.L. § 750.539 17

M.C.L. § 752.771 17

M.C.L. § 752.772 17

REGULATIONS:

29 C.F.R. § 1903 15

40 C.F.R. § 2.201 *et seq.* 16

UNITED STATES CONSTITUTION:

Fourth Amendment 2, 7, 9, 11, 12, 13, 14, 17, 18

MISCELLANEOUS:

La Fave, SEARCH AND SEIZURE § 2.4 (1978) . . . 12

Restatement of Torts § 757 (1939) 17

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PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SIXTH CIRCUIT

Petitioner respectfully prays that a Writ of Certiorari issue to review the opinion of the United States Court of Appeals for the Sixth Circuit decided and filed November 9, 1984.

OPINION BELOW

The opinion of the Court of Appeals decided and filed on November 9, 1984 (Appendix A), has been reported at 749 F.2d 307.

JURISDICTION

Jurisdiction of this Court to review the decision of the United States Court of Appeals for the Sixth Circuit is founded upon 28 U.S.C. § 1254(1).

The opinion of the Court of Appeals (Appendix A), was decided and filed on November 9, 1984. A Petition for Rehearing was not filed.

CONSTITUTIONAL AND STATUTORY PROVISIONS

U.S. Const. amend. IV provides:

> The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

Subsection 114(a) of the Clean Air Act, 42 U.S.C. § 7414(a), provides:

> **Authority of Administrator or authorized representative**
>
> For the purpose (i) of developing or assisting in the development of any implementation plan under section 7410 or section 7411(d) of this title, any standard of performance under section 7411 of this title, or any emission standard under section 7412 of this title, (ii) of determining whether any person is in violation of any such standard or any requirement of such a plan, or (iii) carrying out any provision of this chapter (except a provision of subchapter II of this chap-

ter with respect to a manufacturer of new motor vehicles or new motor vehicle engines) —

(1) The Administrator may require any person who owns or operates any emission source or who is subject to any requirement of this chapter (other than a manufacturer subject to the provisions of section 7525(c) or 7542 of this title) with respect to a provision of subchapter II of this chapter to (A) establish and maintain such records, (B) make such reports, (C) install, use, and maintain such monitoring equipment or methods, (D) sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such manner as the Administrator shall prescribe), and (E) provide such other information as he may reasonably require; and

(2) the Administrator or his authorized representative, upon presentation of his credentials —

(A) shall have a right of entry to, upon, or through any premises of such person or in which any records required to be maintained under paragraph (1) of this section are located, and

(B) may at reasonable times have access to and copy any records, inspect any monitoring equipment or method required under paragraph (1), and sample any emissions which such person is required to sample under paragraph (1).

Subsection 114(c) of the Clean Air Act, 42 U.S.C. § 7414(c), provides:

Availability of records, reports, and information to public; disclosure of trade secrets

Any records, reports or information obtained under subsection (a) of this section shall be available to the public, except that upon a showing satisfactory to the Administrator by that person that records, reports, or information, or particular part thereof, (other than emission data) to which the Administrator has access under this section if made public, would divulge methods or processes entitled to protection as trade secrets of such person, the Administrator shall consider such record, report, or information or particular portion thereof confidential in accordance with the purposes of section 1905 of Title 18, except that such record, report, or information may be disclosed to other officers, employees, or authorized representatives of the United States concerned with carrying out this chapter or when relevant in any proceeding under this chapter.

STATEMENT OF THE CASE

The genesis of this case was EPA's surreptitious acquisition of aerial reconnaissance photographs of Dow's entire 2,000 acre fenced and secured Midland, Michigan, manufacturing facility for use as evidence in a Clean Air Act enforcement action concerning emissions from Dow's two power houses. For reasons of worker safety, economics, maintenance and industry custom, many of the process areas within the Dow Midland facility are open-air plants. After learning of the flyover from the EPA contractor, Dow brought this action under 28 U.S.C. § 1331* to preserve its privacy

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* Jurisdiction was also based on 28 U.S.C. §§ 1337, 1361, 2201, 2202 and 5 U.S.C. § 701.

interests and to protect the internal details, confidential business information and trade secrets of its open-air operations from public disclosure through the Freedom of Information Act (5 U.S.C. 552) or any other mechanism.

Dow has been manufacturing chemicals at its Midland facility since the 1890's. The 3.25 million dollar (1977 dollars) security system for the 2,000 acre manufacturing facility is described in the District Court opinion [536 F. Supp. 1355, 1364-1365] (Appendix B, pp. B-19-21). That system ranges from an eight (8) foot high perimeter fence and a twenty-four (24) hour security force of at least twenty-five (25) people, to motion detectors at strategic locations within the facility. Dow's security measures to protect against aerial photography, which include explicit direction to the Dow security department to watch for suspicious aircraft (multiple passes) and follow-up was described to the Court of Appeals (Jt. Appen., Ct. App., 291-306). The Court, however, found that Dow takes no precautions against aerial observation (Appendix A, p. A-8).

Dow welcomed the EPA into Dow's secured Midland facility for a two (2) to three (3) hour inspection on September 9, 1977. During the visit, which was part of EPA's ongoing investigation of emissions from Dow's two power houses, EPA was denied nothing it requested to see. After the visit, Dow provided schematic drawings of the power houses to EPA per its request.

On December 2, 1977, EPA contacted Dow and requested a second, repetitive on-site inspection — but this time with a camera. Dow refused the repetitive inspection and the taking of photographs. The possibility of EPA's getting a warrant was discussed.

Without further communication to Dow, on February 7, 1978, EPA caused the flyover of Dow's entire Midland facility and the taking of high resolution, vivid color aerial photographs with a precision, floor-mounted, cer-

tified mapping camera. In six (6) passes over the plant and approximately seventy-five (75) photographs, EPA captured not only Dow's two thousand (2,000) acre fenced manufacturing area, but also Dow's research and corporate office areas, the Dow Corning Company facility, and nearly all of the city of Midland. Items and equipment as small as one-half (½) inch in diameter are discernable from the original (unenlarged) contact prints using simple, hand-held magnification. Many of these minute, but observable items are located in interior regions of the plant which are surrounded by buildings and other structures which make observation from anywhere but directly above, a near physical impossibility.

EPA ordered the aerial reconnaissance photographs of the Dow facility for use as direct evidence in a Clean Air Act enforcement action against Dow relating to the power house emissions. None of the photographs depicted power house emissions.

Despite the District Court's finding that items and equipment, which were both inside the fence and neither visible from the ground nor from the air with the naked eye, were depicted in astonishing detail, the Court of Appeals did not recognize the critical distinction between mere (unaided) aerial observation and detailed aerial photography. The unaided human eye and mind cannot perceive or capture for later study the complex web of pipes, vessels and equipment of one plant, much less many plants on 2,000 acres. The aerial photographs at issue did.

Dow recognizes that planes fly over or near its plant. But, there is no support in fact or in the record for the Court of Appeals' finding that the Midland plant is on a take-off and landing pattern for an airport (Appendix A, pp. A-8, 9).

The District Court granted Dow's Motion for Partial Summary Judgment and found that EPA's actions of capturing the entire facility in vivid detail (to the point of discerning items ½ inch in size) after consent for an inspection had been refused and without judicial authorization was a violation of Dow's reasonable expectation of privacy and an unreasonable search in violation of the Fourth Amendment. The District Court also found that aerial photography is outside of EPA's inspection authority since the practice of aerial photography cannot comply with the plain language of Section 114(a)(2) of the Clean Air Act, which authorizes EPA to present credentials then enter to, upon or through a site to inspect records, check monitoring equipment, or take samples.

On November 9, 1984, the Court of Appeals reversed *in toto* the District Court's opinion. Despite the fact that EPA admitted its activity was a search, the Court of Appeals found that there was no search. The Court of Appeals held that even though Dow had a privacy interest to be free from ground level intrusion, Dow had no reasonable expectation to be free from the aerial spectator. The Court also held that "[a]lthough the [Clean Air Act] does not expressly authorize enhanced aerial observation, the language of Section 114 clearly does not foreclose this technique." (Appendix A, p. A-14).

No petition for rehearing was filed.

REASONS FOR GRANTING THE WRIT

This case should be granted certiorari because: a) this Court's existing Opinions have not been followed; b) the immediate cost to Dow and many others similarly situated to attempt to protect their privacy is extremely high and there is little chance, at any cost, of obtaining

continuing protection as intrusive technology increases; and c) nonparticularized and general searches by means of aerial photography are frequently occurring and will continue indefinitely without review, judicial oversight, or legislative authority/safeguards since the searches are carried out in a wholly surreptitious manner and hence will not be challenged.

The Court of Appeals' decision is inconsistent with accepted precedents of this Court, common sense, and public policy. The decision poses a tremendous economic problem to the chemical industry. If complex manufacturing facilities are deemed to be open fields in which the owners have no reasonable expectation of privacy with respect to visually enhanced intrusions, then companies such as Dow cannot maintain that their technology discernible through such visually enhanced means has been maintained secret. Making reasonable efforts to maintain the secrecy of a trade secret is a condition precedent to alleging that information or technology in fact constitutes a protectable trade secret. *Kewanee Oil Company* v. *Bicron Corporation*, 416 U.S. 470, 476 (1974). The decision cracks open the door to legalizing industrial espionage.

The Court of Appeals' decision will soon engender serious economic (privacy protection cost) and public policy (privacy loss) problems and cause citizens to engage in non-productive activity, such as attempting to cover all or a portion of huge outdoor production processes despite the common sense factors of worker safety, plant maintenance and unit cost dictating against such action. All to prevent government agents from doing what they ought not do in the first place.

I.

THE DECISION IS INCONSISTENT WITH THIS COURT'S OPINIONS IN *OLIVER* v. *UNITED STATES*, 80 L.Ed.2d 214 (1984); *MARSHALL* v. *BARLOW'S INC.*, 436 U.S. 307 (1978); *AIR POLLUTION VARIANCE BOARD* v. *WESTERN ALFALFA CORPORATION*, 416 U.S. 861 (1974); AND *KATZ* v. *UNITED STATES*, 389 U.S. 347 (1967)

It is axiomatic that commercial and industrial establishments have a reasonable expectation of privacy and are entitled to Fourth Amendment protection in their non-public areas. *Marshall* v. *Barlow's Inc.*, 436 U.S. 307 (1978); *Katz* v. *United States*, 389 U.S. 347 (1967); and *Oliver* v. *United States*, __ U.S. __, 80 L.Ed.2d 214 (1984). The Court of Appeals' opinion is a radical departure from those cases.

The Court of Appeals did find that Dow has an expectation of privacy at ground level:

> Here Dow had an actual expectation of privacy in certain parts of its plant, privacy which included the freedom from certain kinds of intrusion. Dow took great pains to be free from ground level intrusion by building a perimeter security fence and employing security guards. 536 F. Supp. at 1364-65. Hence, Dow had a kind of actual privacy expectation in these parts of its plant, a privacy interest to be free from ground level intrusions from the street. (Appendix A, p. A-8).

Despite its finding of a reasonable expectation of privacy at ground level, the Court of Appeals abandoned consistency and common sense and found that Dow had no reasonable expectation of privacy from the air. The Fourth Amendment is thus eviscerated as far as open-air industry is concerned. To reach this remarkable conclusion, the Court ignored the distinction between

mere aerial observation and detailed aerial photography, held that EPA's admitted search was not a search at all, held that Dow's security measures to protect against aerial photography were nonexistent, found that the Dow facility was on an airport flight pattern despite no support in fact or in the record, and held the secured, developed industrial complex to be an open field.

A. Detailed Aerial Photography Versus Mere Aerial Observation

The Court of Appeals ignored the critical distinction between mere aerial observation and detailed aerial photography. Mere aerial observation (naked-eye) is akin to a government agent watching a house from a public park, or an EPA smoke reader observing a plume from a public right-of-way. *Air Pollution Variance Board* v. *Western Alfalfa*, 416 U.S. 861 (1974). Sophisticated aerial photography, which perceives and captures detail which is inaccessible to the unaided human eye or mind, is analogous to using a telescope or telephoto lens to peer into a structure to a degree where the details of human activity are visible. *Cf. United States* v. *Kim*, 415 F. Supp. 1252 (D.Ha. 1976) [government use of telescope enabling agents to determine reading material of suspect through an apartment window is an unreasonable search], and *United States* v. *Taborda*, 635 F.2d 131 (2nd Cir. 1980) [enhanced viewing through a window into interior of a home with a high-powered telescope unlawful].

As a public policy and common sense matter, the location of the "window", that is, to the street or to the sky, should not matter. Once the human relations that create the need for privacy are established, and the reasonable expectation of privacy is recognized, the reasonableness of the search is judged by the government's actions.

The EPA aerial reconnaissance photographs taken by a floor-mounted certified mapping camera captured Dow's entire Midland facility (and most of Midland) in such vivid detail as to defy the label of mere aerial observation. Those pictures, which depict the inner workings of the open-air manufacturing plants within the fenced and secured Midland facility, are the product of extremely intrusive, aided and constitutionally offensive scrutiny. The photographs are the equivalent of technical process drawings and blueprints — the very heart of Dow's business. EPA searched the interior regions of the Dow facility — areas where the public has no right to be. EPA "saw" the minute details of interior portions of the plant not merely by means of the aerial perspective, but through the aid of sophisticated visual enhancement and capture *via* aerial photographs.

B. A Secured, Developed Industrial Facility Is Not An Open Field

It is contrary to common sense and public policy that an industrial facility can be deemed to be an open field from the sky, but not from the ground. An area is either an open field or it is not. It cannot logically be both. Having Fourth Amendment rights at ground level is a meaningless mockery if a more intrusive, non-particularized, surreptitious search method is available without restriction upon government agents.

In its Opinion, the Court of Appeals references Dow's buildings and the spaces between those buildings (Appendix A, pp. A-4, 6, 8-13). The Court overlooks the complex mass of pipes, vessels and equipment which comprise Dow's outdoor manufacturing areas, the detail of which Dow is trying to protect, and which are neither buildings nor open spaces between buildings. Those multi-million dollar outdoor plants are the basis of

Dow's business, its competitive edge, and the fruits of its inventors and engineers. They are protected by Dow's multi-million dollar security system and our legal system.

Until the Court of Appeals' decision, a secured and developed industrial facility had never been held to be an open field. The District Court specifically rejected the applicability of the open fields exception to this case. 536 F. Supp. at 1358, n. 5 (Appendix B, p. B-6). Since *Hester* v. *United States*, 265 U.S. 57 (1924), the open fields doctrine has been generally applied to rural, agricultural land. Some courts have interpreted "field" well beyond its literal meaning to include wooded areas, deserts, vacant lots in cities, and open beaches, but never a developed, secured industrial complex. *See*, I. W. LaFave, Search and Seizure § 2.4 at 332 (1978). In those cases the land is usually "developed" only in an agricultural sense. The security and expectation of privacy question usually revolves around agricultural-type fencing and posting.

In *Oliver* v. *United States*, *supra*, this Court specifically included "offices and commercial buildings" and "an office or commercial structure" within the protection of the Fourth Amendment, as opposed to "open fields." *Id.*, p. 224, and p. 224 n. 8. The Sixth Circuit opinion misapprehends and misapplies the open fields doctrine of *Hester* as reaffirmed in *Oliver*, in derogation of Petitioner's Fourth Amendment rights.

C. The Open Fields Doctrine Has Limited, If Any, Application To Cases Where Sophisticated, Intrusive Surveillance Devices Are Employed To Seek Evidence Without Consent Or Judicial Authority

The open fields doctrine must be limited both to the nature of the site inspected and to the unaided or un-

enhanced viewing application of *Hester* and *Oliver*. As Justice Brandeis cautioned in his dissent in *Olmstead* v. *United States*, 277 U.S. 438 (1928), and as the Court accepted in *Katz*, the Fourth Amendment must be capable of wider application than the mischief which gave it birth. Once it is decided that society recognizes a reasonable expectation of privacy in a commercial establishment, *Marshall* v. *Barlow's Inc., supra*, then that protection ought not depend on the intrusive means selected by the government.

Enforcement officials can observe (unaided) the perimeter or exterior or plainly visible aspects of a home, factory or apartment as much as they want. *Air Pollution Variance Board* v. *Western Alfalfa Corp., supra; Marshall* v. *Barlow's Inc., supra*. In fact, the EPA deployed a smoke reader to the Dow facility after the September 1977 inspection and before the February 1978 flyover (Jt. Appen., Ct. App., 91). However, when the government uses observation or detection aids to intrude in minute detail into the interior areas of a protected place, that action has been held to be unconstitutional. *United States* v. *Taborda, supra*, 635 F.2d at 137; *United States* v. *Kim, supra*. The use of sophisticated photographic equipment in this case is comparable to the wire-tap in *Katz*.

The expectation of privacy only has to be reasonable, not total. The law protects the reasonable expectation of privacy, not the perfect security system. The perfect security system has no need for protection. If achievement rather than expectation of privacy were the only thing protected by the Fourth Amendment, then that Amendment would be a nullity.

Dow has thirty-seven (37) manufacturing locations in nineteen (19) states. Those locations encompass about two hundred and ten (210) separate manufacturing units, most of which are open air plants. The one representa-

tive plant discussed in this case covers thirty (30) acres, and although deemed not practical by the plant manager/engineer, would have cost at least $15,000,000 to roof in 1978. *See* Appendix F, excerpt of J. Wait's 5/10/78 Deposition, pp. 13-14 (F-1-F-2), for a brief summary of attendant practical problems. The current cost of protecting all, or a part of, two hundred and ten (210) plants would be astronomical and unreasonable in view of Dow's existing multi-million dollar security system.

As the Court in *Katz* v. *United States, supra,* 389 U.S. at 351, recognized: "What a person *knowingly* exposed to the public, even in his own home or office, is not a subject of Fourth Amendment protection. [Cite omitted.] But what he *seeks* to preserve as private, even in an area accessible to the public, may be constitutionally protected" (emphasis added).

II.

SECTION 114(a) OF THE CLEAN AIR ACT DOES NOT AUTHORIZE, EITHER EXPLICITLY OR BY LACK OF PROHIBITION, THE USE OF AERIAL PHOTOGRAPHY AS AN INVESTIGATION TOOL

The Court of Appeals agrees that Section 114 of the Clean Air Act does not expressly authorize enhanced aerial observation (Appendix A, p. A-14). However, some misplaced analogies are used to hold that the language of Section 114 does not foreclose the technique. First cited are data gathering methods which are distinguishable since they do not entail observing on-site details of an industrial facility.

Next is a comparison with "other law enforcement officers." Even if the EPA is deemed to be a law enforcement agency rather than an administrative agency, law enforcement agencies are bound by the Constitution and

statutes which authorize and limit their activities. For example, the Omnibus Crime Control And Safe Streets Act defines the "why" and the "when" of warrants for wiretaps. 18 U.S.C. § 2510 *et seq.* Other administrative agencies, such as OSHA, have regulations that somewhat define and limit the agency's statutory inspection authority. 29 C.F.R. § 1903 *et seq.* EPA has no comparable regulations guiding the discretion of its inspectors.

The Court of Appeals' analogy to military investigators is especially inappropriate. Not only does the military operate under a different system of justice, but it is expressly prohibited from aiding in civilian law enforcement. 18 U.S.C. § 1385. Also, unlike the EPA, the military generally keeps its files from public scrutiny.

In balancing citizens' right to privacy and the EPA's investigation and enforcement needs, detailed aerial photography is clearly a loser. There is absolutely no particularity attendant to aerial photography. The camera is switched on and the "run" is made, capturing everything around the point of interest. Many people's privacy in addition to Dow's was invaded in this case. More economic, lawful and reliable alternatives exist. Smoke-readers are used by the EPA. Under Section 114 (a)(1) the Agency has the authority to request a wealth of information from a site owner or operator. Although costly to the Agency to obtain, the aerial photographs in this case showed no plume. The method is a hit-or-miss, unreliable evidentiary tool.

A. The Decision Is Inconsistent With Congressional Intent As Shown By The Plain Meaning Of The Statutory Language

By statute, the EPA must *present credentials,* then *enter to, upon or through* the property for the purpose of *checking records, monitoring equipment or sampling emissions.*

Section 114(a)(2) [42 U.S.C. § 7414(a)(2)]. None of the statutory prerequisites or purposes delineated by Congress are met by aerial photography.

The Court of Appeals' decision that the language of Section 114 does not foreclose the use of aerial photography as an on-site inspection technique is contrary to the plain meaning of the statutory language. *Consumer Product Safety Comm.* v. *GTE Sylvania, Inc.*, 447 U.S. 102, 108 (1980).

Congress has directly spoken on the precise question at issue; that is, the manner and purposes of a site inspection under the Clean Air Act. Section 114(a)(2). Congress' unambiguously expressed intent must be given effect. *Chevron, U.S.A., Inc.* v. *Natural Resources Defense Council, Inc.*, 467 U.S. __, 81 L.Ed.2d 694, 703 (1984). "If broader powers be desirable, they must be conferred by Congress. They cannot be merely assumed by administrative officers; nor can they be created by the courts in the proper exercise of their judicial functions." *Federal Trade Commission* v. *Raladam Company*, 283 U.S. 643, 649 (1931).

B. The Decision Is Inconsistent With The Clean Air Act's Provision Protecting Trade Secrets And Existing Tort And Criminal Law

The Court of Appeals' decision annihilates the protection for trade secrets offered by the Clean Air Act. Section 114(c) (42 U.S.C. § 7414(c)) and 40 C.F.R. § 2.201 *et seq.* The Agency's use of aerial photography abrogates any trade secret protection since the person photographed has no notice of the Agency's acquisition of the photographs and no opportunity to claim that the photographs contain confidential business information.

The decision is also counter to the criminal law on theft of trade secrets and the law of torts on misappro-

priation of trade secrets. The Restatement of Torts § 757 (1939) (Appendix C), is the basis of trade secret definition and protection. "The law also protects the holder of a trade secret against disclosure or use when the knowledge is gained, not by the owner's volition, but by some 'improper means,' Restatement of Torts § 757(a), which may include theft, wiretapping, or even aerial reconnaissance." *Kewanee Oil Company* v. *Bicron Corporation, supra,* 416 U.S. at 475-476 (footnote omitted). *DuPont* v. *Christopher,* 431 F.2d 1012 (5th Cir. 1970), *cert. den.* 400 U.S. 1024 (1971), cites the Restatement of Torts § 757 and discusses the tortious taking of trade secrets from a plant under construction by aerial photographs. *See also* the Uniform Trade Secrets Act (Appendix D), which was approved by the National Conference of Commissioners on Uniform State Laws in 1979, and has been adopted by at least seven (7) states. In part, a trade secret under the Uniform Act (§ 1(4)) must not be readily ascertainable by proper means, and subject to efforts that are reasonable under the circumstances to maintain its secrecy. Although Michigan has not yet adopted the Uniform Trade Secrets Act, Michigan Compiled Laws (M.C.L.) § 752.772 (Appendix E), makes it a crime to steal a trade secret. Photographs are explicitly recognized in M.C.L. § 752.771 (Appendix E), as one means of stealing trade secrets. It is also illegal to invade one's privacy by means of surveillance in Michigan. M.C.L. § 750.539a and d (Appendix E).

CONCLUSION

The wide-spread ramifications of holding that a multi-million dollar developed and secured industrial facility is an open field, and hence outside of the protection of the Fourth Amendment, is especially grim. Industrial privacy

and trade secret protection from sophisticated surveillance into open-air operations are lost. The potential for abuse by the government is manifest. Searches will be indiscriminate with no judicial authorization, no restraint on frequency, and no restraint on the nature or scope of the surveillance.

The Court of Appeals, in reversing the District Court, condoned the violation of Petitioner's right to be protected against unreasonable search and seizure as guaranteed by the Fourth Amendment, and granted the Respondent *carte blanche* to conduct general searches contrary to existing constitutional restraints and legislative direction.

In view of this Court's decisions in *Katz* v. *United States*, *Marshall* v. *Barlow's Inc.*, *Air Pollution Variance Board* v. *Western Alfalfa*, and *Oliver* v. *United States*, the Open Fields Doctrine was misapplied and Petitioner's reasonable, constitutionally justified, expectation of privacy was violated.

For reasons stated above, this Petition for Writ of Certiorari should be granted.

Respectfully submitted,

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Dated: February 7, 1985

TABLE OF CONTENTS OF APPENDIX

Page

APPENDIX A
Opinion of the U.S. Court of Appeals for the Sixth Circuit A-1

APPENDIX B
Opinion of the U.S. District Court for the Eastern District of Michigan B-1

APPENDIX C
Excerpts from Restatement of Torts § 757 (1939) . . C-1

APPENDIX D
Uniform Trade Secrets Act D-1

APPENDIX E
Relevant Michigan Compiled Laws:
Mich. Comp. Laws § 750.539a and d E-1-E-2
Mich. Comp. Laws § 752.771 . . . . . E-2
Mich. Comp. Laws § 751.772 . . . . . E-3

APPENDIX F
Excerpt from Deposition of J. Wait, 5/10/78, pp. 13-14 . . . . . F-1

APPENDIX G
Non-Fully Owned Subsidiaries And Affiliates Of The Dow Chemical Company As Of December 31, 1984 . . . . . G-1

APPENDIX TO PETITION FOR CERTIORARI

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APPENDIX A

OPINION

(United States Court of Appeals
for the Sixth Circuit)

(Decided and Filed November 9, 1984)

(DOW CHEMICAL COMPANY, Plaintiff-Appellee, v. UNITED STATES OF AMERICA, by and Through ANNE M. BURFORD, ADMINISTRATOR, ENVIRONMENTAL PROTECTION AGENCY, Defendant-Appellant — No. 82-1811; ON APPEAL from the United States District Court for the Eastern District of Michigan.)

Before: LIVELY, Chief Judge; MERRITT, Circuit Judge; HORTON, District Judge.*

MERRITT, Circuit Judge.

In investigating Dow Chemical Company for possible violations of the Clean Air Act, the Environmental Protection Agency caused aerial photographs of Dow's 2000-acre Midland, Michigan plant to be made by a private aerial survey company. Upon learning of the EPA flyover, Dow sought declaratory and injunctive relief in the United States District Court for the Eastern District of Michigan. On cross-motions for partial summary judgment, the District Court held that EPA's detailed aerial photography was an unreasonable search and seizure under the Fourth Amendment. The District Court permanently enjoined EPA from conducting future aerial

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* The Honorable Odell Horton, Judge of the United States District Court for the Western District of Tennessee, sitting by designation.

surveillance and photography of Dow's Midland, Michigan plant. We hold that the photographic flyover did not consititute a Fourth Amendment search and was not outside the EPA's statutory authority.

I.

The EPA began an investigation of Dow's Midland, Michigan plant during the latter part of 1977. The investigation focused on whether emissions from two coal-burning power houses violated the federal air quality standards established under the Clean Air Act.

On September 9, 1977, EPA made an on-site inspection of Dow's power plants. EPA later requested and received from Dow schematic drawings depicting both the physical layout of the power houses and the boilers and turbines within the power houses. EPA then called Dow to arrange a second inspection. Dow refused to grant entry for this inspection upon hearing that EPA inspectors planned to take photographs of the plant. After being denied entry, EPA informed Dow that it would consider seeking a search warrant to gain access to the plant.

EPA did not secure a warrant; instead, on February 6, 1978, EPA contracted with Abrams Aerial Survey Corporation, a private company located in Lansing, Michigan, to take aerial photographs of the Dow plant. EPA's stated purposes for the aerial surveillance were to create visual documentation of smokestack emissions and to obtain perspectives on the layout of the plant and its relationship to the surrounding geographic area. EPA directed Abrams to take the pictures at particular altitudes and angles; EPA informed Abrams that emissions would be more visible in early morning or late afternoon, but left the actual time of the flight to Abrams' discretion.

Abrams performed the overflight in the afternoon on February 7, 1978. The aircraft made at least six passes over the plant at altitudes of 12,000, 3,000, and 1,200 feet. Abrams used a Wild RC-10 aerial mapping camera to take approximately 75 color photographs of various parts of the Dow plant. Because of Abrams' sophisticated photographic equipment, the photographs contain vivid detail and resolution; some of the photographs can be enlarged to a scale of 1 inch equals 20 feet or greater, without significant loss of detail or resolution. The District Court found that when enlarged in this manner and viewed under magnification, the photographs show equipment, pipes and power lines as small as ½ inch in diameter.

EPA did not notify Dow either before or after the flight. When Dow learned of the event a few weeks later, from sources other than EPA, Dow filed this action.

The District Court reasoned that once it is established that an administrative search occured, "[t]he question [turned] on whether EPA's authority under the Clean Air Act meets 'the sufficiently comprehensive and defined' criteria of *Donovan* v. *Dewey* . . . or whether the search violated a reasonable expectation of privacy." 536 F. Supp. at 1360. The District Court concluded that *Marshall* v. *Barlow's Inc.*, 436 U.S. 307, 313 (1978), controlled the present case, and that an administrative search requires a warrant, unless the search falls into one of several narrow and well-defined exceptions to the warrant requirement. In the District Court's view, EPA's search of Dow's chemical plant did not fit any of these exceptions. Hence, the Court found that EPA's aerial photography of Dow's Midland plant was an unreasonable search proscribed by the Fourth Amendment.

Although the Court "[was] fairly certain that the Fourth Amendment issue raised in this case is properly resolved on the basis of an administrative inspection analysis alone," 536 F. Supp. at 1363, nevertheless, it considered it useful to "alternately review the facts (in *Dow*) under the framework of *Katz*." *Id.* According to the District Court, the search of Dow's Midland plant was unreasonable because EPA's aerial photography invaded Dow's reasonable expectation of privacy in the "interior regions of its plant" — meaning by this phrase, the open, outdoor spaces between plant buildings. The Court concluded that the photographic equipment used by EPA's agents constituted "enhanced viewing" that invaded Dow's reasonable expectation of privacy in these outdoor regions. Additionally, the search was unreasonable because EPA's needs in preventing pollution, though legitimate, were outweighed by Dow's reasonable expectation of privacy.

Lastly, the District Court held that the Clean Air Act did not authorize EPA to institute aerial surveillance of chemical plants. Hence, by conducting such surveillance, EPA exceeded its statutory authority under the Act.

Therefore, two questions are presented by this appeal. First, we must decide the constitutional issue of whether there was an unreasonable search under the Fourth Amendment. Second, did EPA exceed its statutory authority under the Clean Air act by conducting the aerial photography?

II.

The Fourth Amendment provides for "people to be secure in their persons, houses, papers and effects against unreasonable searches . . . and [that] no warrant shall issue but upon probable cause . . . ." U.S. Const.

amend. IV. The U.S. Supreme Court held nearly twenty years ago that these protections apply, at least in part, when a governmental agency conducts an administrative search of a commercial facility. *Camara* v. *Municipal Court*, 387 U.S. 523 (1967); *See* v. *City of Seattle*, 387 U.S. 541 (1967). More recently, in *Marshall* v. *Barlow's Inc.*, 436 U.S. 307 (1978), the Court clarified the law concerning administrative searches and held that when government action constitutes a Fourth Amendment "search," the agency must get an administrative warrant, or, subject to certain exceptions, the search will be deemed unreasonable.[1] If the government action in this case — EPA's aerial photography of Dow Chemical's Midland, Michigan plant — constitutes a Fourth Amendment "search," then *Barlow's* controls, and EPA's warrantless search violated Dow's Fourth Amendment rights. If, on the other hand, the aerial photography was not a search, then EPA's aerial observation did not violate the Fourth Amendment. The question before this court then is whether EPA's aerial photography was sufficiently intrusive to constitute a "search" triggering the warrant clause of the Fourth Amendment.

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[1] Exceptions to the *Barlow's* administrative warrant requirement have been made in industries like the alcoholic beverage industry, which has long been "subject to close supervision and inspection." *Colonnade Corp.* v. *United States*, 397 U.S. 72, 77 (1970), and the firearms industry, which has also been subject to pervasive and comprehensive government regulation. *United States* v. *Biswell*,406 U.S. 311 (1972). Implicit in these exceptions to the warrant requirement is the notion of implied consent. Another exception has been carved out when a statute, by explicitly requiring a warrantless search, "establishe[d] a predictable and guided federal regulatory presence." *Donovan* v *Dewey*, 452 U.S. 594, 604 (1981) (Supreme Court upholds constitutionality of section 103(a) of the Mine Safety and Health Act requiring that mine safety inspectors make warrantless searches). Inherent in this exception is a test that balances the strength of the federal regulatory interest, on the one hand, with the reasonable expectation of privacy of the commercial entity on the other. The government has not argued for the application of any of these exceptions to this case.

The issue of whether there was a search is a threshold requirement of Fourth Amendment analysis. To be entitled to Fourth Amendment protection, it is first necessary to determine whether there was a "search," a term of art with special constitutional significance. Traditionally, in defining what constituted a search, the Supreme Court interpreted the Fourth Amendment as primarily protective of property rights; a trespass was a necessary condition for determining whether a search had occurred. *See Olmstead* v. *United States,* 277 U.S. 438 (1928) The Supreme Court modified this property based concept in *Katz* v. *United States,* 389 U.S. 347 (1967). *Katz* defines what constitutes a search with a two-prong test: first, the person claiming Fourth Amendment protection must prove that he or she had an actual, or a subjective, expectation of privacy in the area intruded upon by the government. Second, that subjective expectation must be one that society would deem reasonable. The *Katz* doctrine therefore protects an individual's actual privacy interest when that interest is reasonable. In the instant case, we must determine whether the government's aerial photography of Dow's Midland plant intruded upon Dow's actual and reasonable expectation of privacy in the spaces between its buildings, or in the words of the District Court, "in the interior regions of its plant."

Before applying the *Katz* analysis to this case, it is important to note that the word "reasonable" is used in Fourth Amendment analysis in two different ways, and that these two ways must be separated in order to avoid confusion. A "reasonable search" is different from a "reasonable expectation of privacy." The former refers to whether "probable cause" existed or whether the officers exceeded the limits of the warrant. The latter determines whether there was a Fourth Amendment "search" at all and focuses on whether the human relationships that

normally exist at the place inspected are based on intimacy, confidentiality, trust or solitude and hence give rise to a "reasonable" expectation of privacy. The District Court may have confused or conflated these two when it stated that it "[was] fairly certain that the Fourth Amendment issue raised in this case is properly resolved on the basis of an administrative inspection analysis alone" without reference to an analysis under *Katz*. 536 F. Supp. at 1363. But in order for an administrative inspection to trigger the Fourth Amendment, there must be a search in the constitutional sense of that term. Hence, *Katz* must be discussed for *Katz* defines in terms of privacy interests what a search is for Fourth Amendment purposes.

III.

Establishing an actual expectation of privacy requires two elements. First, it must be established what a person had an expectation of privacy *in*, for example, a home, office, phone booth or airplane. Second, it must be established what the person wanted to protect his privacy *from*, for example, non-family members, non-employees of a firm, strangers passing by on the street or flying overhead in airplanes. The New York Stock Exchange, a place which illustrates the two types of expectations, permits only members and employees on the floor but welcomes the public observer from above.

A useful test of whether a person has a privacy interest in a certain place is whether there are any "objective manifestations of any claimed privacy expectations." *Dow Chemical Co.* v. *United States*, 536 F. Supp. 1355, 1364 (E.D. Mich. 1982). *See also United States* v. *Taborda*, 635 F.2d 131, 137 (2nd Cir. 1980) (looking into a dwelling window with telescopic lenses invades Fourth Amendment privacy interest). The objective manifestations

of a privacy expectation must be *in* some place and an expectation to be free *from* a certain kind of intrusion.

Here Dow had an actual expectation of privacy in certain parts of its plant, privacy which included the freedom from certain kinds of intrusion. Dow took great pains to be free from ground level intrusion by building a perimeter security fence and employing security guards. 536 F. Supp. at 1364-65. Hence, Dow had a kind of actual privacy expectation in these parts of its plant, a privacy interest to be free from ground level intrusions from the street. But Dow did not take any precautions against aerial intrusions, even though the plant was near an airport and within the pattern of planes landing and taking off. If elaborate and expensive measures for ground security show that Dow has an actual expectation of privacy in ground security, as Dow argues, then taking no measure for aerial security should say something about its actual privacy expectation in being free from aerial observation. Certainly, no one could reasonably expect Dow to build a dome over its entire Midland plant in order to establish its expectation of privacy, free from aerial intruders. But it does not follow that Dow could not take any measures at all to shield outdoor spaces from aerial observers. Dow could have shielded the critical spaces in between its buildings, if it had an actual expectation of privacy from aerial observation of these regions. A comparison of the precautions a person does take with the precautions he might take, when such precautions are feasible and not unreasonably expensive, is a factor to be considered in determining his privacy expectation *from the kind of intruder* about whom he is complaining. Dow has described no trade secret or confidential relationship outside its building walls that the observer from above would compromise, and Dow's objective behavior does not indicate an expectation to be free from the aerial spectator.

IV.

We are not convinced that Dow had an actual expectation of privacy from the air, but even if Dow did have such an expectation the expectation was unreasonable. On this question, the District Court erred in dismissing defendant's "open field" argument. Dow's Midland plant is 2000 acres, located in an urban area near an airport and within the pattern of planes landing and taking off. Both the size and location of an entity must be taken into account in order to determine whether it is objectively reasonable to expect privacy in all or part of that entity. Dow's size and location militate against regarding an expectation of privacy free from aerial observation as reasonable. When the entity observed is a multi-building complex, and the area observed is the outside of these buildings and the spaces in between the buildings, and when the complex is near an airport and within the pattern of planes landing and taking off, it is difficult to see how a reasonable person would have privacy expectations in the outside of the buildings and the spaces between the buildings.

Although the analogy is not perfect, Dow's Midland plant is much more like "open fields" than it is a home or office. When the area observed is like an open field, an inspection which would otherwise be a search becomes a non-search for Fourth Amendment purposes. *Hester* v. *United States*, 265 U.S. 57 (1924); *Air Pollution Variance Board* v. *Western Alfalfa Corp.*, 416 U.S. 861 (1974). The Supreme Court recently reaffirmed the "open fields" doctrine and interpreted it in light of *Katz*. *Oliver* v. *United States*, 104 S.Ct. 1735 (1984). The Court held that individuals cannot demand privacy rights for activities conducted in what are essentially open fields. The context or conditions for privacy are not present there, and such demands are not reasonable. *Id.* In

affirming this Court in *Oliver*, the Supreme Court made reference to and quoted with apparent approval from a passage in our opinion, the full text of which reads as follows:

> The Fourth Amendment and other laws protecting privacy create the conditions and the context for many relationships based on intimacy, friendship and trust. These laws establish an environment in which individual emotional and mental processes can develop freely without surveillance or interference. The legal principles that protect privacy, therefore, do not protect the desert island, the mountain top or the open field — even one that the owner posted with a "no trespass" sign. The human relations that create the need for privacy do not ordinarily take place in these settings. The only significant interest at stake here — a property owner's interest in excluding others from his possessions — is not sufficient alone to bring into play legal principles protecting privacy.

United States v. *Oliver*, 686 F.2d 356, 360 (6th Cir. 1982) (en banc). Our reasoning there leads to the conclusion here that the interior spaces outside Dow's buildings are not places in which one may have a reasonable privacy expectation.

It is true that certain outside areas associated with a home or dwelling have traditionally received Fourth Amendment protection as falling within the "curtilage." Thus, the Fourth Amendment has been held to apply to the search of a smokehouse located within a fenced yard, *see Robertson* v. *United States*, 165 F.2d 752 (6th Cir. 1948), and to a honeysuckle patch situated within a fence 150 feet from a home. *See United States* v. *Van Dyke*, 643 F.2d 992 (4th Cir. 1981).

It can be argued here that the areas in between Dow's buildings formed a sort of industrial curtilage, and therefore should receive Fourth Amendment protection. However, to apply the curtilage doctrine to this 2000-acre manufacturing complex would be a distortion of the principles on which the doctrine rests. The doctrine of curtilage is grounded in the peculiarly strong concepts of intimacy, personal autonomy and privacy associated with the home. The home is fundamentally a sanctuary, where personal concepts of self and family are forged, where relationships are nurtured and where people normally feel free to express themselves in intimate ways. The potent individual privacy interests that inhere in living within a home expand into the areas that enclose the home as well. The backyard and area immediately surrounding the home are really extensions of the dwelling itself. This is not true simply in a mechanical sense because the areas are geographically proximate. It is true because people have both actual and reasonable expectations that many of the private experiences of home life often occur outside the house. Personal interactions, daily routines and intimate relationships revolve around the entire home place. There are compelling reasons, then, for applying Fourth Amendment protection to the entire dwelling area.

Dow has legitimate privacy interests in many aspects of its corporate life. Dow has strong expectations of privacy within its offices and inside its enclosed facilities. These interests are not so powerful that they automatically apply to the exterior of Dow's plant. In the home setting, Fourth Amendment protection applies to adjoining areas because of the unique privacy interests associated with dwelling places, and because of our traditional understanding that home life is not confined

to the physical structure of the house. The areas between industrial buildings do not normally share the same uses.

Although Dow has a reasonable expectation of privacy in the interior of its plant buildings and offices, this is not to say that such a privacy interest has equal force to that which inheres in a dwelling. Indeed, the Court's ruling in *Marshall* v. *Barlow's Inc., supra,* that a lesser showing of probable cause is required to secure an administrative warrant, is evidence of this difference. The Court has noted that a commercial owner's privacy interest "differs significantly from the sancitity accorded an individual's home." *Donovan* v. *Dewey,* 452 U.S. 594, 598-99 (1981). Dow's reasonable privacy interest in the interior of its buildings does not extend into the areas between the buildings because, unlike the home setting, there is no compelling reason in terms of privacy to justify this extension. After a diligent search we have found no cases applying the curtilage concept to the commercial setting. Although there may be some places for research and development or employee interaction which justify an extension of the concept, we hold that the common law curtilage doctrine does not apply to this particular manufacturing setting.

V.

Finally, much is made of the government's use of sophisticated photographic equipment from the air. The District Court found that such sophisticated technology violated Dow's Fourth Amendment rights because the extreme detail of the photographs enabled a viewer to observe "more than the human eye could ever see." 536 F. Supp. at 1367.

The government conducts a search when it uses "enhanced viewing of the interior of a home," because it impairs "a legitimate expectation of privacy and encounters the Fourth Amendment's warrant requirement." *United States* v. *Taborda*, 635 F.2d 131, 139 (2nd Cir. 1980). Had the EPA's aerial photography of Dow's plant intruded *inside* the plant offices, file rooms and eating areas, it would be proscribed by *Taborda*.[2] As we have already discussed, it is unpersuasive, however, to compare the spaces in between Dow's buildings as anything like the interior of a home or its curtilage. The outdoor spaces of a chemical plant are simply a necessary feature of a plant, a complex of buildings, having several disparate buildings. Dow has not described what privacy interests contained in these spaces make enhanced viewing violative of the Fourth Amendment.

VI.

The District Court also erred in upholding Dow's contention that EPA's use of enhanced aerial observation as an inspection technique exceeded the agency's authority under the Clean Air Act. The District Court held that section 114 of the Clean Air Act, 42 U.S.C. § 7414, does not authorize aerial photography as an investigatory tool "even by reasonable implication." 536 F. Supp. at 1374. This finding was based on the court's statutory interpretation of section 114(a)(2)(A), which

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[2] Our reasoning in this regard is similar to that of the Ninth Circuit in *United States* v. *Allen*, 633 F.2d 1282 (9th Cir. 1980). In *Allen*, aerial photographs were taken of the exterior of ranch buildings and grounds. When enlarged, these photographs showed details of drug smuggling operations. The Ninth Circuit held that the warrantless helicopter surveillance of the coastal ranch was not a search under the Fourth Amendment. The Court observed that the case did not present "privacy expectations associated with the interiors of residences or other structures." 633 F.2d at 1289.

provides that "upon presentation of credentials," the EPA has a "right of entry to, upon, or through any premises." 42 U.S.C. § 7414(a)(2)(A). In holding that enhanced aerial surveillance was not impliedly authorized by section 114, the court found that the language of the statute pointed to the conclusion that Congress meant only to authorize "land-based examination of emission sources." 536 F.Supp. at 1374.

Although the statute does not expressly authorize enhanced aerial observation, the language of section 114 clearly does not foreclose this technique. Congress has delegated general investigative authority to EPA under the Clear Air Act. EPA investigators may go to the library to research a company, talk to its employees and former employees and observe the plant from different vantage points without making an "entry" on the premises which requires notification. Other law enforcement officers who use aerial observation in their work, *e.g.*, drug enforcement and traffic officers, coast guard and property tax mapping officials, do not have to announce their presence in advance or present credentials. Like these officers, EPA investigators should be permitted to use aerial photography as a part of their general investigative authority. Congress need not expressly delegate this authority to EPA just as it need not expressly delegate it to the FBI or the DEA or to military investigators. So long as these investigators operate in the public air space and do not intrude into areas protected by the Fourth Amendment, they may use an airplane and a camera without presentation of credentials to the owners of property over which they fly.

Accordingly, the judgment of the District Court is reversed. Costs are asseessed against appellee.

APPENDIX B

MEMORANDUM OPINION AND ORDER

(United States District Court —
Eastern District of Michigan,
Northern Division)

(Dated April 19, 1982)

(The DOW CHEMICAL COMPANY, Plaintiff, v. UNITED STATES OF AMERICA, By and Through Anne M. GORSUCH, Administrator, Environmental Protection Agency, Defendants — Civ. No. 78-10044)

* * *

JAMES HARVEY, District Judge.

I.
INTRODUCTION

This case involves a constitutional and statutory challenge to the use of warrantless aerial photography of a chemical manufacturing plant by the Environmental Protection Agency (EPA). The Dow Chemical Company (Dow) asserts that this activity by the EPA constitutes an unreasonable search in violation of the Fourth Amendment, a taking and misappropriation of trade secrets in violation of the Fifth Amendment, and the use of an inspection tool which is outside the scope of EPA's statutory authority under Sections 113 and 114 of the Clean Air Act, 42 U.S.C. §§ 7413-7414 (1980). Dow seeks a declaratory judgment and injunctive relief.

II.
FACTS

The Dow Chemical Company owns and operates a 2000 acre manufacturing plant in Midland, Michigan. In the latter part of 1977 EPA, the governmental agency primarily charged with administering and enforcing the federal pollution laws, was conducting an investigation of Dow to check emissions from the power houses located inside Dow's facility for possible violations of federal air quality standards.

In September of 1977, EPA made an on-site inspection of the power houses at Dow's plant. After the inspection EPA requested, and later received, schematic drawings of the power houses from Dow.

In December of 1977 EPA again contacted Dow and requested a subsequent entry for purposes of inspecting the power houses. Prior to making this request EPA had already begun preparations for a planned enforcement action against Dow.[1] EPA informed Dow that as part of the inspection it would be taking photographs of the Dow layout and facility. Dow objected to EPA's intention to take photographs and therefore denied EPA's request for entry. In response, EPA suggested to Dow that it would consider seeking a search warrant to gain entrance to the plant.

Rather than institute a civil action or seek a search warrant, EPA decided to obtain aerial photographs of Dow's facility. On February 6, 1978, EPA contracted with Abrams Aerial Survey Corporation (Abrams), a private company located in Lansing, Michigan, to take

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[1] A clean air act enforcement action was eventually filed and is presently pending before the Honorable Stewart A. Newblatt of this District. *United States* v. *Dow Chemical Company*, No. 80-10011 (ED Mich., filed January 25, 1980).

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aerial photographs of the Dow plant. EPA specifically informed Abrams as to the altitude, location, and direction from which the photographs were to be taken.

In the afternoon of February 7, 1978 Abrams flew over Dow's plant as directed. The aircraft made at least 6 passes over the plant at altitudes of 12,000, 3,000, and 1,200 feet. Abrams used a sophisticated Wild RC-10 aerial mapping camera to take approximately 75 color photographs of various parts of the Dow plant.[2]

The Court has carefully examined all of the photographs and has been struck by their vivid detail and resolution. As amply demonstrated by Dow at a hearing before the Court, some of the photographs taken from directly above the plant at 1,200 feet are capable of enlargement to a scale of 1 inch equals 20 feet *or greater*, without significant loss of detail or resolution. When enlarged in this manner, and viewed under magnification, it is possible to discern equipment, pipes, and power lines as small as ½ inch in diameter. Many of these minute, but observable items are located in *interior* regions of the plant which are surrounded by buildings and other structures which make observation from anywhere but *directly above*, a near physical impossibility.[3]

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[2] It is important to an understanding of this case to provide a description of the highly effective equipment used by Abrams. The aircraft used was a twin engine Beechcraft, which Abrams describes as able to "provide photographic stability, fast mobility and flight endurance required for precision photography." *Handbook on Aerial Surveys & Photogrammetry — Abrams Aerial Survey Corporation.* The camera used by Abrams cost in excess of $22,000.00 and is described by the company as the "finest precision aerial camera available." *Id.* The camera was mounted to the floor inside the aircraft and was capable of taking several photographs in precise and rapid succession. *Id.*

[3] Throughout its brief, EPA has used the term *exterior* to describe the areas depicted in the photographs. Dow has implied that these

(continued on following page)

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Dow was not aware of the EPA flyover either before or during its occurrence. When it subsequently became aware of this event a few weeks later, from sources other than EPA, Dow immediately instituted this action.

III.
JURISDICTION AND ISSUES PRESENTED

The Court has jurisdiction over the subject matter herein pursuant to 28 U.S.C. § 1331, 5 U.S.C. § 702, and 28 U.S.C. §§ 2201-2202.

This action presents 3 central issues for the Court's consideration:

I. Whether the EPA flyover and aerial photography of Dow's facilities constitutes an unreasonable search in violation of the Fourth Amendment;

II. Whether aerial photography of Dow's plant by EPA constitutes a taking of property (trade secrets) without due process in violation of the Fifth Amendment; and

III. Whether EPA exceeded its statutory authority under Sections 113 and 114 of the Clean Air Act in using warrantless aerial photography as an investigatory tool.

This matter is presently before the Court on cross motions for summary judgment. Dow seeks summary judgment on the Fourth Amendment and statutory issues, and EPA seeks entry of summary judgment on all issues.

(*continued from preceding page*)

same photographs depict *interior* areas of the plant. While none of the photographs are actually x-rays of the *inside* of buildings or structures, based on its examination, and for the reasons stated above, the Court finds that the photographs more closely approximate a view of the *interior* of the plant than the *exterior*.

This case is appropriate for summary judgment on the Fourth Amendment and Clean Air Act questions, since the material facts relative to these claims are not in dispute, and a decision thereon can be rendered as a matter of law. F.R.Civ.P. 56(c). *See Felix* v. *Young*, 536 F.2d 1126, 1130 (CA 6, 1976). As to the Fifth Amendment claim, however, and for reasons more fully described later in this opinion, *infra*, genuine issues of material fact exist which render disposition of that question by summary judgment inappropriate. *See Willetts* v. *Ford Motor Co.*, 583 F.2d 852, 855 (CA 6, 1978).

For the reasons stated below, the Court concludes that the EPA flyover and aerial photography violated Dow's rights under both the Fourth Amendment and the Clean Air Act. Partial summary judgment on these issues will therefore be entered in favor of Dow and against EPA.

IV.
DISCUSSION

FOURTH AMENDMENT

[1] The first clause of the Fourth Amendment to the United States Constitution provides that, "the right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated . . ." As the very language of this amendment makes clear, the Constitution does not proscribe all governmental searches and seizures, only those that are *unreasonable*.

Dow puts forth at least 3 analytical arguments in support of its position that the overhead flight and aerial photography by EPA constituted an unreasonable search: first, under *Coolidge* v. *New Hampshire*, 403 U.S. 443, 91 S.Ct. 2022, 29 L.Ed.2d 564 (1971), that a warrantless search is *per se* unreasonable; second, under *Marshall*

v. *Barlow's Inc.*, 436 U.S. 307, 98 S.Ct. 1816, 56 L.Ed.2d 305 (1978) that this was an unreasonable warrantless inspection; and third, under *Katz* v. *United States*, 389 U.S. 347, 88 S.Ct. 507, 19 L.Ed.2d 576 (1967), that EPA violated Dow's reasonable expectation of privacy. The Court will separately address each of these contentions.

Before turning to Dow's first assertion, the Court wishes to point out that the EPA has admitted, both in its briefs and at oral argument, that the flyover constituted both a "quest for evidence"[4] and a "search" of Dow's plant. (EPA Brief at 9; Transcript of oral argument at 44).[5] EPA has also admitted that the search was conducted without first securing a warrant. *Id.* With these two premises established, the Court need only determine whether the search was *unreasonable* within the meaning of the Fourth Amendment.

A. *Per Se Unreasonable*

[2] Subject only to "a few specifically established and well-delineated exceptions," warrantless searches have been recognized as *per se* unreasonable and therefore violative of the Fourth Amendment. *Katz* v. *United States*, 389 U.S. 347, 357, 88 S.Ct. 507, 514, 19 L.Ed.2d 576 (1967); *Schneckloth* v. *Bustamonte*, 412 U.S. 218, 219, 93 S.Ct. 2041, 2043, 36 L.Ed.2d 854 (1973); *Coolidge* v. *New Hampshire*, 403 U.S. 443, 454-455, 91 S.Ct. 2022, 2031-2032, 29 L.Ed.2d 564 (1971). On the basis of this

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[4] EPA was admittedly attempting to gather evidence for a planned enforcement proceeding against Dow. An action was later filed and is still pending. *See* note 1 *supra*.

[5] Paradoxically, EPA later asserts that the "open fields" exception of *Hester* v. *United States*, 265 U.S. 57, 44 S.Ct. 445, 68 L.Ed. 898 (1924) applies to this case, making EPA's actions a "non-search" and taking it outside the protection of the Fourth Amendment. (EPA Brief at 13-15). The Court, however, rejects the applicability of the "open fields" exception to this case and therefore independently concludes that a search occurred. *See* Discussion, Section IV(D) *infra*.

principle, Dow asserts that EPA's aerial search of its facility, without prior judicial scrutiny or oversight, is *per se* unreasonable.[6] Relying upon *Donovan* v. *Dewey*, 452 U.S. 594, 101 S.Ct. 2534, 69 L.Ed.2d 262 (1981), EPA responds that warrantless searches of commercial establishments are not *per se* prohibited by the Fourth Amendment, but are only impermissible if they violate a legitimate expectation of privacy.

In the area of administrative inspections, wherein this case "roughly" fits, the Supreme Court appears to have retreated somewhat from the hard and fast conclusion that warrantless searches are *per se* unreasonable.[7] In *Marshall* v. *Barlow's Inc.*, 436 U.S. at 313, 98 S.Ct. at 1820, the Court, in tracing some of its earlier decisions, used the phrase "*generally* unreasonable" to describe warrantless administrative searches. Later in the same opinion the Court stated that "the reasonableness of a warrantless search . . . will depend upon the specific enforcement needs and privacy guarantees of each statute." *Id.* at 322, 98 S.Ct. at 1825. In its most recent

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[6] Dow's position in this regard is not without sound policy considerations to support it. As the Supreme Court stated in *Katz*, 389 U.S. at 359, 88 S.Ct. at 515:

> Wherever a man may be, he is entitled to know that he will remain free from unreasonable searches and seizures. The government agents here ignored 'the procedure of antecedent justification . . . that is central to the Fourth Amendment,' a procedure that we hold to be a constitutional precondition of the kind of electronic surveillance involved in this case.

See also Marshall v. *Barlow's Inc.*, 436 U.S. at 323, 98 S.Ct. at 1825. This "constitutional pre-condition" is the genesis of this Court's ultimate conclusion in this case that *at a minimum*, EPA should have secured an ex parte warrant before carrying out the aerial search. *See* note 20 and accompanying text, *infra*.

[7] The Sixth Circuit, however, continues to adhere to the principle that warrantless administrative searches are *per se* unreasonable. *United States* v. *Blue Diamond Coal Co.*, 667 F.2d 510 (CA 6, 1981).

decision in this area, the Court in *Donovan* v. *Dewey*, 452 U.S. at 599, 101 S.Ct. at 2538, 69 L.Ed.2d at 269-270, announced that:

> . . . the Fourth Amendment protects the interest of the owner of property in being free from *unreasonable* intrusions onto his property by agents of the government. Inspections of commercial property may be unreasonable if they are not authorized by law or are unnecessary for the furtherance of federal interests.
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> * * *
>
> . . . a warrant may not be constitutionally required when Congress has reasonably determined that warrantless searches are necessary to further a regulatory scheme and the federal regulatory presence is sufficiently comprehensive and defined that the owner of commercial property cannot help but be aware that his property will be subject to periodic inspections undertaken for specific purposes.[8]

On the basis of this authority, the Court agrees with the EPA that, under the facts of this case, the Fourth Amendment inquiry does not end — with a decision adverse to the government — once it is established that a warrantless administrative search occurred. The question must turn on whether EPA's authority under the Clean Air Act meets the "sufficiently comprehensive

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[8] This Court's citation of the language above is not to suggest that the Court finds a parallel between the authority of the EPA under the Clean Air Act, 42 U.S.C. § 7401 *et seq.*, and the Department of Labor under the Federal Mine Safety and Health Act, 30 U.S.C. § 801 *et seq.*; it does not. The language is quoted only as support for the Court's determination that a warrantless administrative inspection is not *per se* unreasonable, and that a more sensitive reading of the Fourth Amendment is required in this case.

and defined" criteria of *Donovan* v. *Dewey, supra,* or whether the search violated a reasonable expectation of privacy. *See United States* v. *Taborda,* 635 F.2d 131, 136 (CA 2, 1980); *United States* v. *DeBacker,* 493 F.Supp. 1078, 1081 (WD Mich., 1980).

B. *Administrative Inspection*

The question of the reasonableness of a commercial entity's expectation of privacy is necessarily intertwined with, and must be considered in the context of, the Supreme Court's decisions in the area of administrative inspections.[9] Most recent in this relatively short line of authority is *Marshall* v. *Barlow's Inc., supra,* and *Donovan* v. *Dewey, supra.*

Dow asserts that *Barlow's,* wherein the Court held that a warrantless administrative inspection under the Occupational Safety and Health Act, 29 U.S.C. § 657(a) (1970) (OSHA) violated the Fourth Amendment, controls this case. EPA, on the other hand, maintains that *Dewey,* which upheld a warrantless administrative search under the Federal Mine Safety and Health Act, § 103(a), 30 U.S.C. § 813(a) (1977) (FMSHA), controls the present facts. For the reasons expressed below, the Court holds that this case is governed by the principles and rationale of *Barlow's.*

The Fourth Amendment prohibition against unreasonable searches was extended to administrative inspections of private commercial property nearly a decade and a half ago. *Camara* v. *Municipal Court,* 387 U.S. 523, 87 S.Ct. 1727, 18 L.Ed.2d 930 (1967); *See* v. *City of Seattle,* 387 U.S. 541, 87 S.Ct. 1737, 18 L.Ed.2d 943 (1967). The

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[9] As the Court stated in *Marshall* v. *Barlow's Inc.,* 436 U.S. at 313, 98 S.Ct. at 1820, citing *Katz* v. *United States, supra,* "certain industries have such a history of government oversight that no reasonable expectation of privacy could exist . . ."

reason for this extension was found in the basic purpose of the amendment, which is "to safeguard the privacy and security of individuals against arbitrary invasions of government officials." *Camara*, 387 U.S. at 528, 87 S.Ct. at 1730. Unlike searches of private homes, however, which generally must be conducted pursuant to a warrant in order to be reasonable, "legislative schemes authorizing warrantless administrative searches of commercial property do not necessarily violate the Fourth Amendment." *Dewey*, 452 U.S. at 598, 101 S.Ct. at 2538, 69 L.Ed.2d at 268.

The touchstone of any decision on the legality of a warrantless administrative search is a consideration of the type of business involved, and an analysis of the "pervasiveness and regularity" of the applicable legislative scheme. *Dewey, supra*, 452 U.S. at 604, 101 S.Ct. at 2541, 69 L.Ed.2d at 273. *Barlow's* and its progeny, *Camara* and *See*, created the general rule that absent consent, a warrant is constitutionally required before an administrative inspection may be conducted. From this general rule, certain narrowly defined exceptions have been carved out. In *Colonnade Catering Corp.* v. *United States*, 397 U.S. 72, 73, 90 S.Ct. 774, 775, 25 L.Ed.2d 60 (1970), the Supreme Court recognized that because the alcoholic beverage industry had long been "subject to close supervision and inspection," Congress enjoyed "broad power to design such powers of inspection . . . as it deems neccessary to meet the evils at hand." *Id.* at 76-77, 90 S.Ct. at 776-777. Similarly, in *United States* v. *Biswell*, 406 U.S. 311, 92 S.Ct. 1593, 32 L.Ed.2d 87 (1972), the Court concluded that the federal statute regulating firearms provided a sufficiently comprehensive and predictable inspection scheme that the warrantless inspections mandated under the statute did not violate the Fourth Amendment. *Id.* at 316, 92 S.Ct. at 1596. Most recently, in *Donovan* v. *Dewey, supra*, the Court held that "warrant-

less inspections required by the Mine Safety and Health Act do not offend the Fourth Amendment. *Id.* 452 U.S. at 602, 101 S.Ct. at 2539, 69 L.Ed.2d at 271. The Court explained that:

> . . . the Mine Safety and Health Act applies to industrial activity with a notorious history of serious accidents and unhealthful working conditions. The Act is specifically tailored to address those concerns, and the regulation of mines it imposes is sufficiently pervasive and defined that the owner of such a facility cannot help but be aware that he 'will be subject to effective inspection' . . . First, the Act requires inspection of all mines and specifically defines the frequency of inspection.
>
> . . . Second, the standards with which a mine operator is required to comply are all specifically set forth in the Act or in Title 30 of the Code of Federal Regulations.
>
> . . . Thus, rather than leaving the frequency and purpose of inspections to the unchecked discretion of government officers, the Act establishes a predictable and guided federal regulatory presence. Like the gun dealer in Biswell, the operator of a mine 'is not left to wonder about the purposes of the inspector or the limits of his task.'

Id. 452 U.S. at 603, 101 S.Ct. at 2540, 69 L.Ed.2d at 272 (citations omitted).[10]

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[10] Even prior to the Supreme Court's decision in *Dewey*, the Sixth Circuit had upheld a similar warrantless inspection of a sand and gravel quarry. *Marshall* v. *Nolichuckey Sand Co. Inc.*, 606 F.2d 693 (CA 6, 1979), *cert. denied*, 446 U.S. 908, 100 S.Ct. 1835, 64 L.Ed.2d 261 (1980).

EPA relies heavily on the language of *Dewey*[11], but makes no argument that EPA's authority to regulate the chemical industry under the Clean Air Act constitutes a sufficiently "predictable and guided federal regulatory presence" as to include it as an exception to the general rule prohibiting warrantless administrative inspections. This is understandable, since it is clear to this Court that no such plausible argument can be made.

Unlike the government's control over the alcohol, firearms, and mining industries, the chemical industry is not "pervasively regulated" by EPA under the Clean Air Act. EPA's authority to regulate entities such as Dow is more closely akin to the authority of the Department of Labor under OSHA which the Supreme Court reviewed in *Barlow's*. The Court described that authority as follows:

> (OSHA) imposes health and safety standards on all businesses engaged in or affecting interstate commerce that have employees . . . and authorizes representatives of the Secretary to conduct inspections to ensure compliance with the act . . . However, the Act fails to tailor the scope and frequency of such administrative inspections to the particular health and safety concerns posed by the numerous and varied businesses regulated by the statute.

Donovan v. *Dewey*, 452 U.S. at 601, 101 S.Ct. at 2539, 69 L.Ed.2d at 270 (citations omitted).

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[11] EPA's reliance on *Dewey* appears to be for the proposition that the lesser degree of Fourth Amendment protection accorded commercial premises in general, and the federal regulation of the chemical industry in particular, undercuts and thereby diminishes Dow's reasonable expectation of privacy. This assertion is addressed by the Court later in this opinion. *See* Discussion, Section IV(C) *infra*.

As one commentator, himself a former Assistant Regional Counsel for the EPA, accurately observed:

> EPA, like OSHA, regulates all kinds of industries. Once again, the test is not whether the industry is regulated, but whether it is *pervasively* regulated. Although certain environmental statutes, the Federal Water Pollution Control Act (FWPCA), for example, are licensing statutes in the very broadest sense, such licensing and regulation is distinguishable from that which was present in *Colonnade* or *Biswell*. The scope of the FWPCA is much more akin to the kind of regulation that exists under the auspices of OSHA. Both OSHA and EPA regulate a broad spectrum of different industries pursuant to legislative mandates. However, those myriad businesses are not necessarily highly regulated industries which may be said by implication to consent to warrantless inspections. In that sense, *Barlow's, Inc.*'s finding of the non-applicability of this exception in an OSHA context also applies to EPA.

Martin, *EPA and Administrative Inspections*, 7 Fla.St.L.Rev., 123, 131-132 (1979).

The only statutory provision authorizing administrative inspections in the Clean Air Act is Section 114, 42 U.S.C. § 7414.[12] This provision potentially applies to any number of different industries. By its terms it neither requires or defines the type or frequency of inspections, nor contains standards by which they are to be conducted. In fact, on its face, this provision does not

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[12] Section 114 of the Clean Air Act provides in pertinent part that:

> (a) For the purpose . . . (ii) of determining whether any person is in violation of any such standard or any require-

(*continued on following page*)

appear to allow forced entry without some form of prior judicial oversight.[13] The Supreme Court has already recognized this limitation in the Clean Air Act in its *Barlow's* decision wherein it observed:

> Some statutes already envision resort to federal-court enforcement when entry is refused, employing specific language in some cases . . .
>
> > (an) example is the Clean Air Act, which grants federal district courts jurisdiction "to require compliance" with the Administrator of the Environmental Protection Agency's attempt to inspect under 42 U.S.C. § 7414, when the Administrator has commenced "a civil action" for injunctive relief or to recover a penalty.

436 U.S. at 321 n.18, 98 S.Ct. at 1825 n.18 and accompanying text.

In addition, the legislative history of the Clean Water Act, 33 U.S.C. §§ 1251-1376, also supports the observation that forced entry, or warrantless inspection, is not

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(*continued from preceding page*)

> ment of such a plan, or (iii) carrying out any provision of this chapter . . .
>
> (2) the Administrator or his authorized representative, upon presentation of his credentials —
>
> (A) shall have a right of entry to, upon, or through any premises of such person or in which any records required to be maintained under paragraph (1) of this section are located, and
>
> (B) may at reasonable times have access to and copy any records, inspect any monitoring equipment or method required under paragraph (1), and sample any emissions which such person is required to sample under paragraph (1).

[13] *See* note 27 and accompanying text, *infra*.

contemplated under the Clean Air Act. The Senate Report to the Act states that "*As under the Clean Air Act*, the Committee expects that authority to enter will be used judiciously and upon any challenge to entry the Committee expects the Administrator to obtain the necessary warrant." S.Rep.No. 92-44, 92d Cong., 1st Sess. 62, *reprinted in* [1972] U.S.Code Cong. & Ad.News 3668, 3729 (emphasis added).

The inescapable conclusion of the foregoing judicial and legislative pronouncements is that the holding and rationale of *Barlow's* controls in this case. Therefore, EPA's warrantless aerial search of Dow's plant cannot withstand Fourth Amendment scrutiny. The repugnance of this form of warrantless inspection activity was well stated by the Supreme Court in *Barlow's*, 436 U.S. at 323-324, 98 S.Ct. at 1825-1826:

> The authority to make warrantless searches devolves almost unbridled discretion upon executive and administrative officers, particularly those in the field, as to when to search and whom to search. A warrant, by contrast, would provide assurances from a neutral officer that the inspection is reasonable under the Constitution, is authorized by statute, and is pursuant to an administrative plan containing a specific neutral criteria. Also, a warrant would then and there advise the owner of the scope and objects of the search, beyond which limits the inspector is not expected to proceed. These are important functions for a warrant to perform, functions which underlie the Court's prior decisions that the Warrant Clause applies to inspections for compliance with regulatory statutes.[14]

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[14] It is indeed curious that in the present case EPA argues that its warrantless search of Dow was not inconsistent with the *Barlow's*

(*continued on following page*)

For these reasons, the Court concludes that EPA's aerial photography of Dow's facilities, in an admitted quest for evidence, constituted an unreasonable search in violation of the Fourth Amendment.

In the typical administrative inspection case the Court's Fourth Amendment inquiry would halt at this point. This case, however, is not "typical" in any sense of the word. We are not here dealing with an ordinary *on-site* administrative search, neither are we faced with one of the more common Fourth Amendment challenges. Indeed, the Court's research suggests that, considering the facts before it, it is venturing into unchartered constitutional territory.

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decision, when a published EPA memorandum suggests that as a matter of agency policy, its position is otherwise:

> *Barlow's* clearly establishes that the owner does have the right to ask for a warrant under normal circumstances. Therefore, refusal to allow entry for inspectional purposes will not lead to civil or criminal penalties if the refusal is based on the inspector's lack of a warrant and one of the exemptions discussed in Part C does not apply. If the owner were to allow the inspector to enter his establishment only in response to a threat of enforcement liability, it is quite possible that any evidence obtained in such an inspection would be inadmissible. An inspector may, however, inform the owner who refuses entry that he intends to seek a warrant to compel the inspection. In any event, when entry is refused, the inspector should leave the premises immediately and telephone the designated Regional Enforcement Attorney as soon as possible for further instructions. The Regional Enforcement Attorney should contact the U.S. Attorney's Office for the District in which the establishment desired to be inspected is located and explain to the appropriate Assistant United States Attorney the need for a warrant to conduct the particular inspection.

EPA Memorandum on Inspection Procedures, 41 Envir.Rep. (BNA) 2451, 2452 (April 11, 1979). It is undisputed that in this case, Dow specifically refused EPA's request for entry prior to the flyover.

Both Dow and EPA devoted much of their attention, in briefing and arguing this case, to an analysis of the present facts under the Supreme Court's decision in *Katz* v. *United States*, 389 U.S. 347, 88 S.Ct. 507, 19 L.Ed.2d 576 (1967) and subsequent interpretive decisions. The Fourth Amendment analysis, as applied to this case, focuses on the question of whether Dow had a reasonable expectation of privacy which was violated by EPA's flyover and photography of Dow's plant.

The Court is fairly certain that the Fourth Amendment issue raised in this case is properly resolved on the basis of an administrative inspection analysis alone. Given, however, the atypical nature of this case, the fact that the parties have explored the *Katz* analysis at length, and the additional fact that this analysis raises several important sub-issues and policy considerations, the Court will alternatively review the facts before it under the framework of *Katz*.

C. *Expectations Of Privacy*

[3] In *Katz* v. *United States*, 389 U.S. at 351-352, 88 S.Ct. at 511-512, the Supreme Court observed that:

> the Fourth Amendment protects people, not places. What a person knowingly exposes to the public even in his own home or office, is not a subject of Fourth Amendment protection . . . But what he seeks to preserve as private, even in an area accessible to the public, may be constitutionally protected.

Justice Harlan, in a concurring opinion which has since become the prevailing formulation for evaluating the legality of a search, *see Rakas* v. *Illinois*, 439 U.S. 128, 99 S.Ct. 421, 58 L.Ed.2d 387 (1978); *United States* v. *Bailey*, 628 F.2d 938 (CA 6, 1980); erected a twofold requirement to determine whether one possesses an

expectation of privacy which is protectable under the Fourth Amendment. This test was best described by Justice Blackmun in *Smith* v. *Maryland*, 442 U.S. 735, 736, 740, 99 S.Ct. 2577, 2578, 2580, 61 L.Ed.2d 220 (1979):

> . . . the application of the Fourth Amendment depends on whether the person invoking its protection can claim a 'justifiable,' a 'reasonable,' or a 'legitimate expectation of privacy' that has been invaded by government action . . . This inquiry, as Mr. Justice Harlan aptly noted in his Katz concurrence, normally embraces two discrete questions. *The first is whether the individual, by his conduct, has 'exhibited an actual (subjective) expectation of privacy,'* 389 U.S. at 361 [88 S.Ct. 507 at 516, 19 L.Ed.2d 576] — whether, in the words of the Katz majority, the individual has shown that 'he seeks to preserve [something] as private.' Id. at 351 [88 S.Ct. 507 at 511, 9 L.Ed.2d 576]. *The second question is whether the individual's subjective expectation of privacy is 'one that society is prepared to recognize as "reasonable."'* id., at 361 [88 S.Ct. 507 at 516, 19 L.Ed.2d 576] — whether, in the words of the Katz majority, the individual's expectation, viewed objectively, is 'justifiable' under the circumstances. (citations omitted; emphasis added).

This Court must now apply this two-part test to the facts before it.

1. DOW'S PRIVACY EXPECTATION

[4, 5] The extent of any claimed privacy expectation must be evaluated in light of the identity of the party seeking to invoke the protections of the Fourth Amendment. *Donovan* v. *Dewey, supra; GM Leasing Corp.* v. *United States*, 429 U.S. 338, 97 S.Ct. 619, 50 L.Ed.2d 530

(1977). While the expectation of privacy that the owner of commercial property enjoys "differs significantly from the sanctity accorded an individual's home," *Id.*, it is clear that a commercial establishment may possess a protectable privacy expectation under the Fourth Amendment. *Marshall* v. *Barlow's Inc., supra.*

[6] The first part of the *Katz* test appears to require that a party's actual state of mind be determined. Various courts, however, have interpreted this aspect of the test as an "objective" rather than a "subjective" requirement. *United States* v. *Taborda,* 635 F.2d 131, 137 (CA 2, 1980); *United States* v. *Kim,* 415 F.Supp. 1252, 1256-1257 (D.Haw., 1976); *accord United States* v. *Bailey,* 628 F.2d 938, 942-943 (CA 6, 1980). This Court agrees with this interpretation, and concludes that the essence of the first prong of the test is that the party "must have acted in such a way that it would have been reasonable for him to expect that he would not be observed." *United States* v. *Taborda, supra.* Therefore, the Court must look to objective manifestations of any claimed privacy expectation.

[7] The first and most obvious indicia of a privacy expectation is ownership. *Wilson* v. *Health and Hospital Corporation of Marion City,* 620 F.2d 1201, 1212-1213 (CA 7, 1980). Dow's ownership of the Midland complex is undisputed. Ownership of property alone, however, is insufficient to claim an expectation of privacy. The owner must demonstrate that the premises were kept in a closed and secured condition. *Id.*

Dow cites the following measures as evidence that it has manifested and exhibited an expectation of privacy in its plant:

1. A chain-link fence at least 8 feet high installed completely around the production facility;

2. gates for ingress and egress at various intervals in the fence have an attendant (guard) on duty when any given gate is in operation to admit or allow people to leave the facility;

3. closed-circuit television surveillance for continuously monitoring the various entrance and exit gates and to monitor the area along the fence surrounding the facility;

4. alarm systems which will indicate unauthorized entry at various locations;

5. motion detectors at strategic locations to indicate movement of personnel in certain restricted areas within the facility;

6. roving patrols which travel throughout the facility and guard the perimeter to augment the other security systems;

7. liaison with local public law enforcement officials including radio communication to assist in the apprehension of persons engaged in unlawful activities relating to the production facility;

8. a requirement that employees entering the facility must exhibit an identification bade [*sic*] in every instance of entry;

9. a requirement that non-employees who wish to visit the facility must be approved and must obtain a visitors pass including a bade [*sic*] which must be exhibited at all times while in the facility;

10. a requirement that non-employees who have been approved to visit be greatly restricted in their movements and that some areas of the facility remain off-limits to all non-employees;

11. a requirement that *cameras by anyone other than an authorized representative of Dow are prohibited* at all times and in all places in the facility;

12. a requirement that persons visiting for technical reasons must obtain a technical pass which provides among other things that the visitor will not disclose any technical information learned as an incidence to his visit;

13. a staffing program such that security personnel are on duty twenty-four hours a day and seven days a week with at least twenty-five such people on duty at all times and with about fifty people on duty during normal duty hours;

14. a security budget whereby Dow spent at least 3.25 million dollars in each of the last ten years on the security of the Midland production facility; and

15. a disposal or drawings etc, that requires that, in the event the engineering drawings and/or blueprints of a specific production plant were to be disposed of, for example, at the conclusion of construction, the drawings and/or blueprints would be packaged and incinerated under the direction of security personnel who would also witness the incineration.

In addition, Dow points out that its employees and contractors sign secrecy agreements, and that its plant layout is designed in such a way that the more sensitive, proprietary areas are not visible to persons on the public right-of-way outside the fence. (Dow Brief at 11-12).

EPA responds to these assertions by arguing that Dow has sought only to restrict *access* to its plant and to protect its trade secrets from the eyes of its competitors,

it has not attempted to conceal the *exterior* of its plant from view. Therefore, EPA maintains that Dow has failed to satisfy the first prong of *Katz*. This Court cannot agree.

As previously explained[15], EPA's reference to the *exterior* of Dow's plant mischaracterizes what was actually captured in the aerial photographs. The photographs depict *internal* regions of the plant in such vivid detail, capable of further enlargement and magnification, as to defy simply being described as views of the *exterior* of the facility. When these photographic results are combined with the uncontroverted fact that Dow designed its plant so as to conceal the more sensitive, proprietary areas in the inner regions of the complex, EPA's position loses its persuasive weight.

The Court in *Katz*, 389 U.S. at 351-352, 88 S.Ct. at 511-512, specifically stated that what a person "seeks to preserve as private, *even in an area accessible to the public*, may be constitutionally protected." (emphasis added). Dow would never be able to show that it possesses a legitimate privacy expectation in its *entire* plant. Obviously, much of the plant is observable by the general public, both from the ground and from the air. But what is visible to the public are areas which Dow, either purposely or due to some commercial or architectural impracticability, has decided to allow the general public to see. Notwithstanding this common sense limitation, Dow may still possess an expectation of privacy with respect to *interior* regions of its facility.

The Fourth Amendment should not be read as to require the citizens or businesses of this nation to take unreasonable measures to protect themselves from surreptitious governmental searches. This Court is not pre-

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[15] *See* note 3 and accompanying text, *supra*.

pared to conclude that Dow must build a dome over its entire plant before it can be said to have manifested or exhibited an expectation of privacy. *See United States* v. *Allen*, 633 F.2d 1282, 1289 (CA 9, 1980), *cert. denied*, ___ U.S. ___, 102 S.Ct. 133, 70 L.Ed.2d 112 (1981). Rather, what Dow "seeks to preserve as private," and then takes reasonable precautions to safeguard, is entitled to the protection of the Fourth Amendment. *Katz* v. *United States, supra*. On this basis, the Court finds that Dow has satisfied the first prong of the *Katz* test.

2. REASONABLENESS OF DOW'S PRIVACY EXPECTATION

The more difficult question to decide in this case is the second prong of *Katz:* whether Dow's expectation of privacy is one that society is prepared to accept as reasonable. EPA proposes several factors which should be considered in resolving this inquiry.[16] On the basis of these factors, EPA's position is that even if Dow has exhibited an expectation of privacy, it is not one that society accepts as reasonable.

Some of the factors proposed by EPA pertain either to the issue of whether Dow manifested a privacy expectation[17] or whether the "open fields" exception to the Fourth Amendment, *Hester* v. *United States*, 265 U.S. 57, 44 S.Ct. 445, 68 L.Ed. 898 (1924), is applicable to this

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[16] The factors proposed by EPA include:

1. Lawfulness of Location From Which Observation was made
2. Equipment Used to Make the Observation
3. Type of Location Observed
4. Nature of Objects or Activities Observed
5. Efforts to Conceal Objects or Activities from View
6. Frequency of Overflights

[17] This is true of factors 3 through 6.

case.[18] Some of its suggested factors, however, do go to the question of reasonableness and therefore merit some discussion.

In describing the "type" and "nature" of the location observed as 2 factors to be considered, EPA argues that "it is hard to imagine anything larger or more conspicuous than a 2000 acre chemical manufacturing plant located in an urban area of a city." (EPA Brief at 20). As stated previously, the Court would agree that Dow could not possess a reasonable expectation of privacy in its *entire* plant. It may, however, exhibit such an expectation with respect to internal areas of the plant.

While not a Fourth Amendment case, the holding of the Fifth Circuit in *E. I. duPont de Nemours & Co. Inc.* v. *Christopher*, 431 F.2d 1012 (CA 5, 1970), *cert. denied*, 400 U.S. 1024, 91 S.Ct. 581, 27 L.Ed.2d 637 (1971), which the Supreme Court cited approvingly in *Kewanee Oil Co.* v. *Bicron Corp.*, 416 U.S. 470, 476 n. 5, 94 S.Ct. 1879, 1883 n. 5, 40 L.Ed.2d 315 (1974), is instructive. *duPont* filed an action against a competitor, under Texas law, for using aerial surveillance and photography to obtain its trade secrets. In ruling in duPont's favor that aerial photography was an improper method of discovering trade secrets, the Court reasoned that:

> . . . we realize that industrial espionage of the sort here perpetrated has become a popular sport in some segments of our industrial community. However, our devotion to free wheeling industrial competition must not force us into accepting the law of the jungle as the standard of morality expected in our commercial relations. Our tolerance of the espionage game must cease when the

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[18] This is true of at least factors 1 and 2, perhaps all of them. *See* Discussion, Section IV(D) *infra*.

protections required to prevent another's spying cost so much that the spirit of inventiveness is dampened. *Commercial privacy must be protected from espionage which could not have been reasonably anticipated or prevented.* We do not mean to imply, however, that everything not in plain view is within the protected vale, nor that all information obtained through every extra optical extension is forbidden. Indeed, for our industrial competition to remain healthy there must be breathing room for observing a competing industrialist. A competitor can and must shop his competition for pricing and examine his products for quality, components, and methods of manufacture. *Perhaps ordinary fences and roofs must be built to shut out incursive eyes, but we need not require the discoverer of a trade secret to guard against the unanticipated, the undetectable, or the unpreventable methods of espionage now available.*

* * *

To require duPont to put a roof over the unfinished plant to guard its secret would impose an enormous expense to prevent nothing more than a school boy's trick. We introduce here no new or radical ethic since our ethos had never given moral sanction to piracy. The market place must not deviate far from our mores. *We should not require a person or corporation to take unreasonable precautions to prevent another from doing that which he ought not to do in the first place.* Reasonable precautions against predatory eyes we may require, but an impenetrable fortress is an unreasonable requirement, and we are not disposed to burden industrial inventors with such a duty in order to protect the fruits of their efforts. *Id.* at 1016-1017 (emphasis added).

This statement of policy reasons in support of a state tort law decision nonetheless provides guidance to the Court here. As in *duPont*, the present case also involves claims of trade secret appropriation. The rationale of *duPont* supports this Court's belief that commercial privacy may be expected and exhibited, and may be deemed reasonable and legitimate by society. Just as duPont need not be required to take "unreasonable precautions" to prevent aerial photography of its plant as a prerequisite to a tort action, likewise Dow should not be so required in order to claim the protection of the Fourth Amendment.

Society has spoken in this area through Congress, the State Legislatures, and the courts. Federal law, under the Trade Secrets Act, 18 U.S.C. § 1905, makes it a crime for government employees to disclose trade secret information. The Clean Air Act itself, in Section 114(c), 42 U.S.C. § 7414(c), addresses this concern for propriety information. Moreover, EPA has adopted regulations providing for protection of trade secrets. 40 CFR 2.201-2.309. Michigan law, in addition to recognizing a tort action, also makes it a crime to appropriate trade secrets, M.C.L.A. § 752.772, as well as to invade one's privacy by means of surveillance. M.C.L.A. §§ 750.539a-539b. These legislative and judicial pronouncements are reflective of a social acceptance of Dow's privacy expectation as reasonable.

There is some dispute in this case as to whether use of sophisticated aerial photography equipment constitutes visually enhanced surveillance.[19] Dow suggests that "a sophisticated aerial camera, in the hands of a government agent, is even more constitutionally repugnant than a telescope because it enables the searcher to permanently capture the image for later detailed study

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[19] *supra* note 2.

at leisure." (Dow Brief at 42). EPA, on the other hand, posits that this equipment captures nothing more than that which is already visible to the naked eye. (EPA Brief at 17-18; Transcript of oral argument at 29-32).

Having examined the photographs, the Court is unable to agree with EPA's position that "the camera can't see what the eye can't see" *Id.* On the contrary, when flying at 1,200 or 5,000 feet, the eye can discern only the basic sizes, shapes, outlines, and colors of the objects below. In this case, the finest precision aerial camera available was used to take the EPA photographs. The camera successfully captured vivid images of Dow's plant which EPA could later analyze under enlarged and magnified conditions. In doing so, the camera saw a great deal more than the human eye could ever see. The court therefore would agree with Dow that the use of a sophisticated aerial camera is, at a minimum, on a par with other methods of visually enhanced surveillance in terms of its intrusiveness.

In *United States* v. *Taborda*, 635 F.2d 131 (CA 2, 1980), the Second Circuit was faced with the issue of whether observation by means of a high-powered telescope constituted the type of intrusion against which the Fourth Amendment protects. Consistent with *Katz*, the Court concluded:

> . . . observation of objects and activities inside a person's home by unenhanced vision from a location where the observer may properly be does not impair a legitimate expectation of privacy. However, *any enhanced viewing of the interior of a home does impair a legitimate expectation of privacy and encounters the Fourt Amendment's warrant requirement,* unless circumstances create a traditional exception to that requirement. *Id.* at 139 (emphasis added).

See also United States v. Kim, 415 F.Supp. 1252, 1254-1256 (D.Hawaii, 1976). Since the present case involved an intrusion into the *interior* of Dow's palnt, as the Court has previously defined that term, the enhanced viewing in this case similarly encounters the Fourth Amendment's warrant requirement.

[8] Turning the question of "reasonableness" around for a moment — i.e. looking at the reasonableness of the government's actions — it is likely that society would view many forms of visually enhanced surveillance by the government as unreasonable. This is particularly so when it is used in a non-criminal context. *See United States* v. *Bailey*, 628 F.2d 938, 944 (CA 6, 1981). In this age of ever-advancing and potentially unlimited technology the government should be made aware that it does not possess carte blanche authority to utilize sophisticated surveillance methods to keep watch over citizens or businesses not suspected of any criminal activity. As the government's arsenal of technologically-advanced surveillance equipment expands, so too the protections of the Fourth Amendment should broaden in response. *United States* v. *Holmes* 521 F.2d 859, 866 (CA 5, 1975), *United States* v. *Kim*, 415 F.Supp. at 1257.

The Court is reminded of the powerfully eloquent dissent of Justice Douglas in *United States* v. *White*, 401 U.S. 745, 756, 760-761, 91 S.Ct. 1122, 1128, 1130-1131, 28 L.Ed.2d 453 (1971):

> Electronic surveillance is the greatest leveler of human privacy ever known. How most forms of it can be held 'reasonable' within the meaning of the Fourth Amendment is a mystery. To be sure, the Constitution and Bill or Rights are not to be read as covering only the technology know in the 18th century. Otherwise its concept of 'commerce' would be hopeless when it comes to the manage

> ment of modern affairs. At the same time the concepts of privacy which the Founders enshrined in the Fourth Amendment vanish completely when we slavishly allow an all-powerful government, proclaiming law and order, efficiency, and other benign purposes, to penetrate all the walls and doors which men need to shield them from the pressures of a turbulent life around them and give them the health and strength to carry on.
>
> * * *
>
> . . . Electronic aids add a wholly new dimension to eavesdropping. They make it more penetrating more indiscriminate, more truly obnoxious to a free society. Electronic surveillance, in fact, makes the police omniscient; and police omniscience is one of the most effective tools of tyranny.

These same concerns are not entirely absent from this case. While the EPA did not engage in any form of "Star Wars" surveillance, and only used equipment which was commercially available, if this warrantless investigatory method is countenanced in this case, where will courts draw the line? In this regard the Court finds merit in the language of *Dean* v. *Superior Ct.*, 35 Cal. App.3d 112, 110 Cal.Rptr. 585, 588-589 (1973):

> Expectations of privacy are not earthbound. The Fourth Amendment guards the privacy of human activity from aerial no less than terrestrial invasion. At a recent but relatively primitive time, an X-2 plane could spy on ground activities from a height of 50,000 feet. Today's sophisticated technology permits overflights by vehicles orbiting at an altitude of several hundred miles. Tomorrow's sophisticated technology will supply optic and photographic devices for minute observations

> from extended heights. Judicial implementations of the Fourth Amendment need constant accommodation to the ever-intensifying technology of surveillance. In analyzing claims of immunity from aerial surveillance by agents of government, the observer's altitude is a minor factor. Horizontal extensions of the occupant's terrestrial activity form a more realistic and reliable measure of privacy than the vertical dimension of altitude . . . Reasonable expectations of privacy may ascend into the airspace and claim Fourth Amendment protection.

The conclusion of this brief turn-around of the "reasonableness" question is that a society which views certain forms of visually enhanced governmental surveillance as *unreasonable*, would likely accept as *reasonable*, Dow's expectation to be free from this form of intrusion.

A final argument raised by EPA, which, at first blush, is not without a good deal of merit, is that the public interest in effective pollution control outweighs any privacy expectation which Dow may have. *United States* v. *Martinez-Fuerte*, 428 U.S. 543, 555, 96 S.Ct. 3074, 3081, 49 L.Ed.2d 1116 (1976). In this regard EPA emphasizes the utility of warrantless aerial overflights and photography as a tool to monitor compliance with the federal pollution laws.

All of us certainly recognize the need for aggressive and effective pollution control. In this regard we, as citizens, certainly desire EPA to possess all the tools necessary to carry out its legislative mandate to effectuate and enforce the federal pollution laws. For 2 reasons, however, EPA's "public interest — pollution control" argument does not outweigh Dow's expectation of privacy under the facts of this case.

First, the Court finds very little pollution control utility in the investigatory method used by EPA in this case. EPA asserts that it had 2 purposes for the overflight: to get photographs of the "general layout of the plant in relation to the power houses," and to confirm "excess emissions from the power houses." (EPA Brief at 21). The facts are uncontroverted, however, that Dow had earlier given schematic drawings of the power houses to EPA voluntarily. EPA could have made further requests for similar drawings, maps, or even photographs, of the general layout from Dow. Furthermore, it is difficult to place credence in EPA's assertion that a goal of the aerial photography was to confirm excess emissions. EPA had little or no control over when the photographs would be taken by Abrams, and no knowledge of whether there would be any emissions at the moment they were taken.

A second reason militating against EPA's position is that it is difficult to justify a need for the agency to conduct *warrantless* aerial searches. It appears to the Court that *at a minimum,*[20] an *ex parte* warrant procedure would best strike the balance between Dow's expectation of privacy and EPA's asserted need to conduct surprise inspections of this sort. *See generally Note, Rationalizing Administrative Searches,* 77 Mich.L.Rev. 1291, 1329 n. 184 (1979). As well stated by one commentator, "since the normal inspection procedure for *EPA* requires some advance preparation and advance decisions concerning which facilities to inspect, the additional step of obtaining a search warrant does not seem to be a tremendous burden in light of the constitutional rights involved." Martin, *EPA and Administrative Inspections,* 7 Fla. St.L.Rev. 123, 130 (1979); *see also EPA*

[20] *See* n. 27 *infra*

Memorandum on Inspection Procedures, 41 Envir.Rep. (BNA) 2451, 2452 (April 11, 1979).

In terms of policy considerations, the public interest in governmental compliance with constitutional and statutory provisions is also involved in this case. *United States* v. *Martinez-Fuerte, supra.* This consideration would appear to lend support to Dow's assertion that its privacy expectation is one which society is prepared to accept as reasonable.

For all these reasons, the Court finds that Dow has exhibited an actual expectation of privacy, and that that expectation is one the society is prepared to recognize as reasonable. Therefore, under a *Katz* analysis, the Court again concludes that EPA's aerial photography of Dow's plant constituted an unreasonable search in violation of the Fourth Amendment.

D. *"Open Fields"*

In *Hester* v. *United States,* 265 U.S. 57, 59, 44 S.Ct. 445, 446, 68 L.Ed. 898 (1924) the Supreme Court held that "the special protection accorded by the Fourth Amendment . . . is not extended to the open fields." In other words a visual observation of something in plain view — *i.e.* observable by members of the public — does not constitute a search within the meaning of the Fourth Amendment.[21] This ruling was followed in *Air Pollution Variance Bd.* v. *Western Alfalfa Corp.*, 416 U.S. 861, 94 S.Ct. 2114, 40 L.Ed.2d 607 (1974), which involved a constitutional challenge to a health inspector's warrantless observation of "plumes of smoke being emitted

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[21] The "plain view" doctrine of *Coolidge* v. *New Hampshire,* 403 U.S. 433, 464-468, 91 S.Ct. 2022, 2037-2039, 20 L.Ed.2d 564 (1971) is not involved in this case. That doctrine is not a justification to search, but a reason to extend an otherwise valid search. *See Wilson* v. *Health and Hospital Corporation of Marion City,* 620 F.2d 1201, 1209 (CA 7, 1980).

from . . . chimneys" on the premises of a corporation. *Id.* at 863, 94 S.Ct. at 2115. The Court held that, "the field inspector did not enter the plant of offices . . . He had cited what anyone in the city who was near the plant could see in the sky — plumes of smoke . . . [therefore] he was well within the 'open fields' exception . . . approved in Hester." *Id.* at 864-865, 94 S. Ct. at 2115-2116.

EPA asserts that the "open fields" exception applies in this case and therefore validates its actions. In addition to the foregoing authority, EPA cites 2 recent federal cases, *United States* v. *Allen*, 633 F.2d 1288 (CA 9, 1980), *cert. denied*, __ U.S. __, 102 S.Ct. 133, 70 L.Ed.2d 112 (1981), and *United States* v. *DeBacker*, 493 F.Supp. 1078 (WD Mich., 1980), and 9 state cases[22] in support of its position. This Court finds the cases cited either distinguishable or nondispositive, and concludes that the "open fields" exception does not apply in this case.

In *United States* v. *Oliver*, 657 F.2d 85 (CA 6, 1981), the Sixth Circuit relying upon the rationale of *Katz*, held that "the 'open fields' exception to the warrant requirement can no longer be automatically invoked to validate a warrantless search and seizure . . ." *Id.* at 87-88. The Court explained that "*Katz* shifted the emphasis of the test [for determining the legality of a warrantless search] from an inquiry into commonlaw property distinctions

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[22] *People* v. *St. Amour*, 104 Cal.App.3d 886, 163 Cal.Rptr. 187 (1980); *People* v. *Lashmett*, 71 Ill.App.3d 429, 27 Ill.Dec. 657, 389 N.E.2d 888 (1979); *Burkholder* v. *Superior Court*, 96 Cal.App.3d 421, 158 Cal.Rptr. 86 (1979); *State* v. *Brighter*, 589 P.2d 527 (Haw. 1979); *State* v. *Stachler*, 570 P.2d 1323 (Haw. 1977); *Plunkett* v. *City of Lakewood*, 2 Civ. 49610 (unreported decision filed Nov. 15, 1977, Cal.Ct.App.2d Dist.), *cert denied* 436 U.S. 945, 98 S.Ct. 2848, 56 L.Ed.2d 787 (1978); *People* v. *Superior Court*, 37 Cal.App.3d 836, 112 Cal.Rptr. 764 (1974); *Dean* v. *Superior Ct.*, 35 Cal.App.3d 112, 110 Cal.Rptr. 585 (1973).

to an inquiry in which the . . . reasonable expectations of privacy became the focal point." *Id.* It then concluded that:

> . . . Oliver's expectation of privacy was objectively reasonable. *Society's interest in law enforcement is not unduly hampered by requiring a warrant prior to searching a private field which has been reached through a private road exhibiting several "No Trespassing" signs and blocked by a locked gate,* unless there is an imminent threat of destruction of the evidence or there exists a high probability that the evidence will cause serious bodily harm. We are presented with no such emergency situation here.

Id. at 87 (emphasis added). *See also United States* v. *Mullinex*, 508 F.Supp. 512, 514 (ED Ky., 1980).

The Court has already found that Dow's expectation of privacy was objectively reasonable. In accordance with *Oliver*, therefore, society's interest in the enforcement of pollution laws is not unduly hampered by requiring a warrant prior to EPA's aerial search of a private manufacturing plant which is reasonably secured, especially after EPA is specifically refused entry.

Other factors take this case out of the "open fields" exception as well. As previously stated, the exception has the effect of making a plain view observation a non-search. Such a result, however, would be anomalous in this case. EPA has already admitted that it was engaged in a "search" and a "quest for evidence."[23] Therefore, the question before this Court is really limited to whether that admitted search was *unreasonable* under the Fourth Amendment.

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[23] *See* note 4 and text accompanying, *supra*.

The Court has already described why it finds that the EPA aerial photographs "more closely approximate a view of the *interior* of the plant than the *exterior*."[24] This distinction is relevant to the "open fields" inquiry. *See Wilson* v. *Health & Hospital Corporation of Marion City*, 620 F.2d 1201, 1210 (CA 7, 1980). EPA was able to observe a great deal more than "what anyone in the city who was near the plant could see," *Air Pollution Variance Bd., supra*, in its detailed aerial photographs. Granted, other aircraft fly in the vicinity of the Dow plant on occasion. The persons in those aircraft are likely able to observe Dow's plant below. But it is unlikely that those persons are able to see minute, internal details of the plant, without the type of equipment used by EPA.

One commentator, writing specifically about this case, made the following observation:

> The recently filed Dow Chemical case against EPA seems to involve a fact situation where the open fields exception may have some applicability. However, aerial surveillance would seem to push the exception too far. Although *E.I. duPont de Nemours and Co. Inc.* v. *Christopher*, 431 F.2d 1012 (5th Cir., 1970), *cert denied* 400 U.S. 1024 [91 S.Ct. 581, 27 L.Ed.2d 637,] *rehearing denied*, 401 U.S. 967 [91 S.Ct. 968, 28 L.Ed.2d 250] (1971), involved industrial espionage carried out by means of aerial surveillance, what the court said there would seem to apply at least in spirit to the Dow Chemical case:
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> > [We] realize that industrial espionage of the sort here perpetrated has become a popular sport in some segments of our industrial

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[24] *See* note 3 and text accompanying, *supra*.

> community. However, our devotion to free wheeling industrial competition must not force us into accepting the law of the jungle as the standard of morality expected in our commercial relations.
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> 431 F.2d at 1016. The important question that has to be faced is what is constitutionally offensive scrutiny. It would be fallacious to extend the open fields exception to the facts in *Dow* because if it were, advanced technology has given us microphones and cameras that can make an enclosed room an "open field." Spatially based criteria of eligibility for fourth amendment protection ignore the pertinent question as to what it is we wish to see preserved from the offensive scrutiny.

Martin, *EPA and Administrative Inspections*, 7 Fla.St.L.Rev. 123, 134 n. 50 (1979). This viewpoint is in accord with the holding of *United States* v. *Oliver, supra,* and this Court's factual findings under *Katz*. *See also United States* v. *Taborda*, 635 F.2d 131, 139 (CA 2, 1980).

The federal cases cited by EPA do not control this case.[25] While both involved aerial surveillance, both are

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[25] Neither do the state cases. *supra* note 22. All of the cases involved aerial observation of contraband. The Sixth Circuit has stated that, "for Fourth Amendment purposes, there is a clear distinction between contraband and other property." *United States* v. *Bailey*, 628 F.2d 938, 944 (CA 6, 1980); *but see United States* v. *Taborda*, 635 F.2d 131, 138-139 n. 10 (CA 2, 1980). The Court has no quarrel with the holding of these cases that, as a general proposition of law, "a subjective desire to hide contraband from aerial surveillance is not sufficient to establish the requisite reasonable expectation of privacy." *People* v. *St. Amour*, 163 Cal.Rptr. at 191. As applied to the facts of this noncriminal case, however, that proposition cannot withstand constitutional scrutiny. Rather, this case fits within the holding that, "in order to be constitutionally protected from overflights, the person must show that the land in question is expected to be private according to the common habits of persons engaged in [business]." *Id*. Clearly, Dow has made such a showing.

legally and factually distinguishable. In *United States* v. *Allen*, 633 F.2d 1282, 1290 (CA 9, 1980), *cert denied*, ___ U.S. ___, 102 S.Ct. 133, 70 L.Ed.2d 112 (1981), the Court found that "the defendants did not have a reasonable expectation (of privacy)" due to the following factors:

> . . . The Allen Ranch is virtually on the United States sea-coast border . . . and Coast Guard helicopters routinely traversed the nearby air space for several reasons, including law enforcement. The residents of the Allen Ranch would, no doubt, have been aware of these routine flights and any reasonable person, cognizant of the ranch's proximity to the coastline and the Coast Guard's well-known function of sea-coast patrol and surveillance, could expect that government officers conducting such flights would be aided by sophisticated electronic equipment. As such, *the residents could not reasonably bear a subjective expectation of privacy from the Coast Guard's airborne telephotographic scrutiny*, particularly where, as here, the objects observed were large scale modifications of the Allen Ranch landscape and barn.

Id. (emphasis added). Further discussion of *Allen* is unnecessary. Likewise, *United States* v. *DeBacker*, 493 F.Supp. 1078 (WD Mich., 1980) is also distinguishable. There the Court found that, "defendant's relatively minor expectations of privacy do not outweigh the value to society in permitting such non-intrusive surveillance." *Id.* at 1081. Unlike this case, the aerial observation in *DeBacker* was unenhanced by visual aids such as a sophisticated camera. Also, the Court specifically noted that "airplane flights over local farm lands at low altitudes (200 feet) are not infrequent . . ." *Id.* The same cannot be said of flights over Dow's chemical manufacturing facility. *Accord, United States* v. *Mullinex*, 508 F.Supp. 512, 514-515 (ED Ky., 1980).

For these reasons, the Court finds that the "open fields" exception neither takes this case out of the purview of the Fourth Amendment, nor in any way alters this Court's earlier conclusion that EPA's conduct was unreasonable thereunder.

FIFTH AMENDMENT

[9] Dow has summarized its Fifth Amendment claim as follows: "that the surreptitious reconnaissance flights over Dow's Midland plant . . ., together with the photographs taken of the plant by EPA and its contractor constitute a taking of property [*i.e.* trade secrets and other proprietary information] without due process of law." (Dow Response Brief at 2). On various factual and jurisdictional grounds, EPA has moved for summary judgment on this claim.

In its Reply Brief EPA states that it does "not disagree with Dow's assessment that disputed issues of fact still remain with regard to the question of whether Dow in fact has any trade secrets and whether any such trade secrets are discernable in the aerial photographs obtained by EPA . . ." (EPA Reply Brief at 8). For this reason, the Court hereby DENIES EPA's motion for summary judgment on this claim. F.R. Civ.P.56(c)[26]

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[26] As the Court reads the complaint regarding the Fifth Amendment claim, the following material facts, as alleged by Dow, are still in dispute:

1) Dow has protectable trade secrets in its Midland plant and consequently, Dow has exercised the necessary reasonable degree of secrecy for the protection of such trade secrets.

2) The photographs taken by the EPA in its aerial surveillance of the Dow facility gave the EPA possession of valuable trade secrets of Dow.

3) Photographs taken by the EPA through aerial reconnaissance are available to the public and hence, will lead to a disclosure and loss of Dow trade secrets.

(*continued on following page*)

[10] Dow has raised 2 separate statutory sub-issues in this case: first, whether EPA is authorized under Section 114 of the Clean Air Act, 42 U.S.C. § 7414, to use aerial photography as an investigation tool; and second, whether EPA's sole and exclusive remedy when refused entry is to seek injunctive relief under Section 113 of the Clean Air Act, 42 U.S.C. § 7413. EPA's position is that Section 114 implictly authorizes it to use aerial photography. EPA also contends that the agency is not required to seek injunctive relief when entry is refused, and need only secure an *ex parte* warrant. The Court finds that only the former question — as to EPA's authority under Section 114 — is ripe for decision in this case.[27] Therefore the Court will leave the latter issue for another day.

A. *Use of Aerial Photography*

Section 114 of the Clean Air Act, 42 U.S.C. § 7414, governs the authority of EPA to enter and conduct

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(*continued from preceding page*)

The Court rejects EPA's claim that it lacks subject matter jurisdiction to issue the declaratory and injunctive relief sought by Dow. The Court is vested with such jurisdiction under 28 U.S.C. § 1331, 5 U.S.C. § 702, and 28 U.S.C. §§ 2201-2202. *See e.g. Public Service Co. of Indiana* v. *U.S.E.P.A.*, 509 F.Supp. 720, 721 (SD Ind., 1981).

[27] Under the facts of this case, an "actual controversy" regarding the Section 113 issue has not been presented within the meaning of the Declaratory Judgment Act, 28 U.S.C. § 2201. *See Lake Carriers Assoc.* v. *MacMullan*, 406 U.S. 498, 506, 92 S.Ct. 1749, 1755, 32 L.Ed.2d 257 (1972). Had EPA secured, or even attempted to secure, an *ex parte* warrant prior to the flyover, the issue would be justiciable. The agency, however, did neither. Coincidently, this very issue is about to be decided by the United States Court of Appeals for the Sixth Circuit in *United States* v. *Stauffer Chemical Co.*, no. 81-5311 (oral argument held December 17, 1981). The Appeal in *Stauffer Chemical* is from a District Court decision holding that the Clean Air Act authorizes EPA to use an *ex parte* warrant procedure when entry to inspect is refused. 511 F.Supp. 744, 749-750 (MD Tenn., 1981).

inspections of emissions sources. In relevant part, Section 114 provides:

> (a) For the purpose . . . (ii) of determining whether any person is in violation of any such standard or any requirement of such a plan, or (iii) carrying out any provision of this chapter
>
> (2) the Administrator or his authorized representative, upon presentation of his credentials —
>
> (A) shall have a right of entry to, upon or through any premises of such person or in which any records required to be maintained under paragraph (1) of this section are located, and
>
> (B) may at reasonable times have access to and copy any records, inspect any monitoring equipment or method required under paragraph (1) and sample any emissions which such person is required to sample under paragraph (1).

This statute *expressly* authorizes EPA to enter a facility to determine whether the applicable Clean Air Act requirements are being complied with, to have access to records and reports, to inspect any emissions monitoring equipment, and to sample emissions. The question before the Court in this case is what *implied* authority is granted to EPA under the statute.[28]

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[28] At the outset EPA maintains that its actions did not constitute an "entry." This Court agrees. The real issue, however, is not whether the aerial surveillance constituted an entry, but whether Section 114 authorizes EPA to use overflights as an investigatory tool.

EPA asserts that where Congress has delegated broad authority to an agency to implement a statute, such delegation carries with it the implicit authority for the agency to use all means and measures to effectuate the legislatively mandated end. *American Trucking Assoc.* v. *United States*, 344 U.S. 298, 308-313, 73 S.Ct. 307, 313-316, 97 L.Ed. 337 (1952). Dow responds that the legislative scheme established in the Clean Air Act is expressly and narrowly tapered to consist primarily of self-reporting and consented-to inspections.

As intimated previously, this Court believes that EPA should be granted broad authority to carry out its legislative mandate to enforce the federal pollution laws. Congress recognized this need when it amended the Clean Air Act in 1970:

> The purpose of the legislation . . . is to speed up, expand, and intensify the war against air pollution in the United States with a view to assuring that the air we breathe throughout the Nation is wholesome once again. The Air Quality Act of 1967 (Public Law 90-148) and its predecessor acts have been instrumental in starting us off in this direction. A review of achievements to date, however, make abundantly clear that the strategies which we have pursued in the war against air pollution have been inadequate in several important respects, and the methods employed in implementing those strategies often have been slow and less effective than they might have been.

H.R.Rep.No. 91-1146, 91st Cong. 2d Sess. 116, *reprinted* in [1970] U.S.Code Cong. & Ad.News 5356. Despite this recognition and statement of purpose, Congress did not amend the statute to authorize EPA to use "all means and measures" to monitor and enforce compliance with the Act.

Nothing in the plain language of the statute, or its sparse legislative history, suggests that Congress intended that EPA be given authority to utilize aerial surveillance and photography. In fact, 3 literal aspects of Section 114 reveal a legislative will that EPA's investigatory powers be limited to land-based examination of emission sources.

Section 114(a)(2)(A) grants to EPA, or its "authorized representative":[29]

— a right of entry;
— to, upon, or through any premises;
— upon presentation of credentials.

An analysis of each of these phrases compels the conclusion that aerial surveillance and photography by EPA is not authorized under the statute, even by reasonable implication.

A "right of entry" cannot be viewed as synonomous with a "right to search." Had Congress intended that EPA be allowed to use aerial search techniques, it could have considered granting the agency a broad "right to search," or could have specifically enumerated aerial surveillance as among the permissible methods of monitoring and inspection. But a "right of entry," in literal terms, is something quite different. The noun "entry" denotes the physical act of admission or ingress into a given area. The fact that Congress used the phrase "right of entry," suggests to this Court a common sense

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[29] No issue has been raised in this case as to whether Abrams was EPA's "authorized representative." *See e.g. Bunker Hill* v. *U.S.E.P.A*, 658 F.2d 1280 (CA 9, 1981); *Stauffer Chemical Co.* v. *E.P.A.*, 647 F.2d 1075 (CA 10, 1981); *United States* v. *Stauffer Chemical Co.*, 511 F.Supp. 744 (MD Tenn., 1981); appeal docketed no. 81-5311 (CA 6, May 4, 1981); *Public Service Co. of Indiana* v. *U.S.E.P.A.*, 509 F.Supp. 720 (SD Ind., 1981).

interpretation, leading to the conclusion that EPA's intended inspection authority is land-based.

The phrase "to, upon or through any premises," further defines the nature of EPA's statutory right of entry. In conjunction with the term "entry," the adverbs "to, upon, or through" more logically reveal that Congress had in mind an earthbound inspection scheme for EPA, rather than one from above looking down.

Finally, it would be paradoxical for this Court to find an implied right to use *surreptitious* overflights, in a statute expressly requiring the "presentation of . . . credentials" by the inspecting EPA official. The Court is not prepared to ratify a procedure whereby an EPA official appears at the gate of a facility, presents his credentials, and then directs the inspected party's attention to the aircraft flying overhead. Again, this clear legislative expression supports the conclusion that EPA exceeded its statutory authority under Section 114 in carrying out the flyover and aerial photography of Dow's plant.

EPA relies on 2 recent cases, *In Re Clean Air Act Inspection of Bunker Hill*, 15 ERC 1063 (D Idaho, 1980), *affirmed sub. nom, Bunker Hill Co.* v. *U.S.E.P.A.*, 658 F.2d 1280 (CA 9, 1981) and *Public Service Co. of Indiana Inc.* v. *U.S.E.P.A.*, 509 F.Supp. 720 (SD Ind., 1981), for the proposition that "EPA's implicit authority to take photographs of a facility . . . necessarily arises out of its explicit authority in Section 114 of the Act" (EPA Brief at 32-33). EPA's position, and the authority on which it relies, are sound. Section 114 can and should be read as impliedly authorizing the use of photography of a facility which is the subject of an *on-site* inspection. Neither Section 114, nor the cases cited, however, impliedly authorize surreptitious *aerial* photography.

Both the *Bunker Hill* and *Public Service Company* case involved the taking of photographs during on-site, land-based inspections by EPA. In separate conclusions of law the Court in *Bunker Hill* held that:

> 10. The Environmental Protection Agency has authority under Section 114 of the Clean Air Act to take photographs of the facilities and equipment it inspects.
>
> 11. The Bunker Hill Company cannot require the Environmental Protection Agency or its private contractors duly authorized as representatives of the EPA Administrator to submit film to Bunker Hill for development and screening for possible confidentiality concerns. The Bunker Hill Company may, however, claim that any or all of the information depicted in photographs taken by EPA during a Section 114 inspection is confidential, and secure to such photographs the protections provided by 40 CFR 2.201 et seq.

15 ERC at 1066. Similarly, in *Public Service Company*, a decision limited to its own facts, the Court held that EPA's taking of photographs to pinpoint and cite violations was "not improper." 509 F.Supp. at 726. This Court agrees with these holdings, but finds that they are not dispositive of the issue in this case.

Aerial surveillance and photography is not authorized, either expressly or impliedly, by Section 114 of the Clean Air Act. To find otherwise would be to undermine the apparent Congressional purpose that only land-based inspections be utilized, to negate the specific requirement that EPA inspectors present their credentials at the time of the inspection, and to circumvent the inspected parties' right to state claims of confidentiality. 42 U.S.C. § 7414(c); 40 CFR 2.201 et seq.

V.
CONCLUSION

In summary, the Court concludes that the EPA flyover and aerial photography of Dow's plant consitituted an unreasonable search in violation of the Fourth Amendment. In addition, the Court finds that EPA exceeded its statutory authority under Section 114 of the Clean Air Act, 42 U.S.C. § 7414, in using this method of inspection.

Accordingly, the Court hereby GRANTS Dow's motion for partial summary judgment and DENIES EPA's cross-motion for summary judgment. On this basis;

IT IS HEREBY ORDERED AND ADJUDGED that EPA is permanently enjoined and restrained from conducting future aerial surveillance and photography of the Dow Chemical manufacturing facility in Midland, Michigan.

IT IS SO ORDERED.

APPENDIX C

EXCERPTS FROM RESTATEMENT OF TORTS § 757 (1939)

RESTATEMENT OF TORTS

* * *

§ 757. LIABILITY FOR DISCLOSURE OR USE OF ANOTHER'S TRADE SECRET — GENERAL PRINCIPLE.

One who discloses or uses another's trade secret, without a privilege to do so, is liable to the other if

(a) he discovered the secret by improper means, or

(b) his disclosure or use constitutes a breach of confidence reposed in him by the other in disclosing the secret to him, or

(c) he learned the secret from a third person with notice of the facts that it was a secret and that the third person discovered it by improper means or that the third person's disclosure of it was otherwise a breach of his duty to the other, or

(d) he learned the secret with notice of the facts that it was a secret and that its disclosure was made to him by mistake.

Comment:

* * *

b. Definition of trade secret. A trade secret may consist of any formula, pattern, device or compilation of information which is used in one's business, and which gives him an opportunity to obtain an advantage over com-

petitors who do not know or use it. It may be a formula for a chemical compound, a process of manufacturing, treating or preserving materials, a pattern for a machine or other device, or a list of customers. It differs from other secret information in a business (see § 759) in that it is not simply information as to single or ephemeral events in the conduct of the business, as, for example, the amount or other terms of a secret bid for a contract or the salary of certain employees, or the security investments made or contemplated, or the date fixed for the announcement of a new policy or for bringing out a new model or the like. A trade secret is a process or device for continuous use in the operation of the business. Generally it relates to the production of goods, as, for example, a machine or formula for the production of an article. It may, however, relate to the sale of goods or to other operations in the business, such as a code for determining discounts, rebates or other concessions in a price list or catalogue, or a list of specialized customers, or a method of bookkeeping or other office management.

* * *

APPENDIX D

EXCERPTS FROM UNIFORM TRADE SECRETS ACT

UNIFORM TRADE SECRETS ACT

* * *

§ 1. [Definitions]

As used in this Act, unless the context requires otherwise:

(1) "Improper means" includes theft, bribery, misrepresentation, breach or inducement of a breach of a duty to maintain secrecy, or espionage through electronic or other means;

(2) "Misappropriation" means:

(i) acquisition of a trade secret of another by a person who knows or has reason to know that the trade secret was acquired by improper means; or

(ii) disclosure or use of a trade secret of another without express or implied consent by a person who

(A) used improper means to acquire knowledge of the trade secret; or

(B) at the time of disclosure or use, knew or had reason to know that his knowledge of the trade secret was

(I) derived from or through a person who had utilized improper means to acquire it;

(II) acquired under circumstances giving rise to a duty to maintain its secrecy or limit its use; or

(III) derived from or through a person who owed a duty to the person seeking relief to maintain its secrecy or limit its use; or

(C) before a material change of his position, knew or had reason to know that it was a trade secret and that knowledge of it had been acquired by accident or mistake.

(3) "Person" means a natural person, corporation, business trust, estate, partnership, association, joint venture, government, governmental subdivision or agency, or any other legal or commercial entity.

(4) "Trade secret" means information, including a formula, pattern, compilation, program, device, method, technique, or process, that:

(i) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use, and

(ii) is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.

* * *

§ 2. *[Injunctive Relief]*

(a) Actual or threatened misappropriation may be enjoined. Upon application to the court, an injunction shall be terminated when the trade secret has ceased to exist, but the injunction may be continued for an additional reasonable period of time in order to eliminate commercial advantage that otherwise would be derived from the misappropriation.

(b) If the court determines that it would be unreasonable to prohibit future use, an injunction may condition future use upon payment of a reasonable royalty for no longer than the period of time the use could have been prohibited.

(c) In appropriate circumstances, affirmative acts to protect a trade secret may be compelled by court order.

* * *

§ 3. *[Damages]*

(a) In addition to or in lieu of injunctive relief, a complainant may recover damages for the actual loss caused by misappropriation. A complainant also may recover for the unjust enrichment caused by misappropriation that is not taken into account in computing damages for actual loss.

(b) If willful and malicious misappropriation exists, the court may award exemplary damages in an amount not exceeding twice any award made under subsection (a).

* * *

§ 4. *[Attorney's Fees]*

If (i) a claim of misappropriation is made in bad faith, (ii) a motion to terminate an injunction is made or resisted in bad faith, or (iii) willful and malicious misappropriation exists, the court may award reasonable attorney's fees to the prevailing party.

* * *

§ 5. [Preservation of Secrecy]

In an action under this Act, a court shall preserve the secrecy of an alleged trade secret by reasonable means, which may include granting protective orders in connection with discovery proceedings, holding in-camera hearings, sealing the records of the action, and ordering any person involved in the litigation not to disclose an alleged trade secret without prior court approval.

* * *

§ 6. [Statute of Limitations]

An action for misappropriation must be brought within 3 years after the misappropriation is discovered or by the exercise of reasonable diligence should have been discovered. For the purposes of this section, a continuing misappropriation constitutes a single claim.

* * *

§ 7. [Effect on Other Law]

(a) This Act displaces conflicting tort, restitutionary, and other law of this State pertaining to civil liability for misappropriation of a trade secret.

(b) This Act does not affect:

(1) contractual or other civil liability or relief that is not based upon misappropriation of a trade secret; or

(2) criminal liability for misappropriation of a trade secret.

* * *

§ 8. [Uniformity of Application and Construction]

This Act shall be applied and construed to effectuate its general purpose to make uniform the law with respect to the subject of this Act among states enacting it.

* * *

§ 9. [Short Title]

This Act may be cited as the Uniform Trade Secrets Act.

§ 10. [Severability]

If any provision of this Act or its application to any person or circumstances is held invalid, the invalidity does not affect other provisions or applications of the Act which can be given effect without the invalid provision or application, and to this end the provisions of this Act are severable.

* * *

§ 11. [Time of Taking Effect]

This Act takes effect on ____, and does not apply to misappropriation occurring prior to the effective date.

§ 12. [Repeal]

The following Acts and parts of Acts are repealed:

(1)
(2)
(3)

* * *

Historical Note

The Uniform Trade Secrets Act was approved by the National Conference of Commissioners on Uniform State Laws in 1979.

* * *

TABLE OF JURISDICTIONS WHEREIN ACT HAS BEEN ADOPTED

Jurisdiction	Laws	Effective Date	Statutory Citation
Connecticut	1983, No. 344	6-23-1983*	
Delaware	1982 [63 Del. Laws], c. 218	4-15-1982	6 Del.C. §§ 2001 to 2009.
Indiana	1982, No. 1257	2-25-1982*	West's A.I.C. 24-2-3-1 to 24-2-3-8.
Kansas	1981, c. 214	7-1-1981	K.S.A. 60-3320 to 60-3330.
Louisiana	1981, No. 482	7-19-1981*	LSA-R.S. 51:1431 to 51:1439.
Minnesota	1980, ch. 594	1-1-1981	M.S.A. §§ 325C.01 to 325C.08.
Washington	1981, c. 286	1-1-1982	West's RCWA 19.108.010 to 19.108.940.

* Date of approval.

* * *

APPENDIX E

RELEVANT MICHIGAN COMPILED LAWS

* * *

M.C.L. § 750.539a and 750.539d

750.539a Definitions

Sec. 539a. As used in sections 539a to 539i:

(1) "Private place" means a place where one may reasonably expect to be safe from casual or hostile intrusion or surveillance but does not include a place to which the public or substantial group of the public has access.

(2) "Eavesdrop" or "eavesdropping" means to overhear, record, amplify or transmit any part of the private discourse of others without the permission of all persons engaged in the discourse. Neither this definition or any other provision of this act shall modify or affect any law or regulation concerning interception, divulgence or recording of messages transmitted by communications common carriers.

(3) "Surveillance" means to secretly observe the activities of another person for the purpose of spying upon and invading the privacy of the person observed.

(4) "Person" means any individual, partnership, corporation or association. P.A.1931, No. 328, § 539a, added by P.A.1966, No. 319, § 1, Eff. March 10, 1967.

* * *

750.539d Installation of device for observing, photographing or eavesdropping in private place

Sec. 539d. Any person who installs in any private place, without the consent of the person or persons entitled to privacy there, any device for observing, photographing, or eavesdropping upon the sounds or events in such place, or uses any such unauthorized installation, is guilty of a felony punishable by imprisonment in a state prison for not more than 2 years or by a fine of not more than $2,000.00, or both. P.A.1931, No. 328, § 539d, added by P.A.1966, No. 319, § 1, Eff. March 10, 1967.

* * *

M.C.L. § 752.771 AND M.C.L. § 752.772

TRADE SECRETS — STEALING, EMBEZZLING OR COPYING

752.771. Definitions

Sec. 1. As used in this act:

(1) "Article" means any object, material, device or substance or copy thereof, including any writing, record, recording, drawing, sample, specimen, prototype model, photograph, microorganism, blueprint or map.

(2) "Representing" means describing, depicting, containing, constituting, reflecting or recording.

(3) "Trade secret" means the whole or any portion or phase of any scientific technical information, design, process, procedure, formula or improvement which is secret and of value; and a trade secret is considered to be secret when the owner thereof takes measures to prevent it from becoming available to persons other than those selected by the owner to have access thereto for limited purposes.

(4) "Copy" means any facsimile, replica, photograph or other reproduction of an article, and any note, drawing or sketch made of or from an article.

P.A.1968, No. 329, § 1, Eff. Nov. 15.

* * *

752.772. Depriving, withholding, etc., trade secrets; penalty, misdemeanor

Sec. 2. Any person who, with intent to deprive or withhold from the owner thereof the control of a trade secret, or with an intent to appropriate a trade secret to his own use or to the use of another, steals or embezzles an article representing a trade secret or without authority makes or causes to be made a copy of an article representing a trade secret, is guilty of a misdemeanor and shall be fined not more than $1,000.00 or imprisoned for not more than 1 year, or both.

P.A.1968, No. 329, § 2, Eff. Nov. 15.

* * *

APPENDIX F

EXCERPT FROM DEPOSITION OF J. WAIT (DOW), 5/10/78, PAGES 13-14

* * *

(13) * * * Q. Now, are you aware, sir, of any measures that could be taken to prevent aerial photography of the chloralkali plant in Midland?

A. As it stands today I'm not aware.

Q. Can you envisage anything that could be done to prevent aerial photography of the facilities?

A. I suppose it would be possible to build a roof over such a plant.

Q. How large is the plant?

A. It covers 30 acres.

Q. From your standpoint as an engineer would that be a practical alternative?

A. Absolutely not practical.

Q. Have you any idea what the cost would be to roof the chloralkali plant in Midland?

A. It would be extremely difficult to estimate the cost but I would think that you could not do it for less than $15,000,000.

Q. Would there be anything required other than a — other than the (14) erection of a roof over the facilities?

A. Well, the roof alone would introduce a lot of problems. There would be a lot of side effects from such a thing. But the roof alone would probably tend to hide the biggest part of the operation.

Q. To maintain the operation of the chloralkali facility would you have to expend any sums of money for items other than the roof itself?

A. Yes, the maintenance would become far more difficult. For example, today we use giant mobile cranes to move equipment from one place to another during

routine maintenance. These cranes, some of them are as high as 100 or 125 feet. Obviously a roof would not be practical that high so large bridge cranes would have to be installed permanently within the roof which would be extremely expensive. The capacities of some of these things would run into the range of a hundred thousand pounds lift capability so it would be an extemely difficult arrangement.

* * *

APPENDIX G

NON-FULLY OWNED SUBSIDIARIES AND AFFILIATES OF THE DOW CHEMICAL COMPANY AS OF DECEMBER 31, 1984

Subsidiaries and affiliates owned both directly and indirectly have been included. The company italicized is the direct owner of the companies listed below it. "Dow's" percent ownership is indicated by each company.

SUBSIDIARIES

The Dow Chemical Company

Alamo Land Company, Inc. (56%)
Gruppo Lepetit S.p.A. (99%)
L.I.F.E. (Laboratorios Industriales Farmaceuticos Ecuatorianos) (59%)
    Laboratorios L.I.F.E. del Salvador S.A. (100%)
    Negocios e Industrias S.A. "Neisa" (100%)
Pacific Chemical Berhad (51%)
    Pacific Cable Products Sendirian Berhad (51%)
Ivon Watkins-Dow Ltd (51%)
Société Industrielle de Plastic et de L'acier S.A. (99%)
The Cynara Company (90%)

Dow Chemical A.G.
(A.G. owned 100% by The Dow Chemical Company)

Petroquimica Dow S.A. (70%)

AFFILIATES

The Dow Chemical Company

Dow Corning Corporation (50%)
Dowell Schlumberger Corporation (50%)

Dowell Schlumberger Incorporated (50%)
Compagnie des Services Dowell Schlumberger (50%)
El Dorado Terminals Company (50%)
Agro Quimica Maringa S.A. (20%)
Bank Mendes Gans (29%)
Chemi-Trol Chemical Company (23%)
DOKI (49%)
Estireno del Zulia C.A. (25%)
Ibafon Chemical Ltd (40%)
Oasis Pipeline Company (30%)
Package Machinery Company (29%)
Piramides Brazil (22%)
Total Raffinaderij Nederland N.V. (20%)
Zoo Agro de Venezuela C.A. (49%)
Al Miyah Chemicals (Ltd.) (49%)
Baratek (50%)
Boersele Hydrocracker B.V. (45%)
Insul/Crete Company, Inc. (50%)
Joliet Marine Terminal (50%)
Long Beach Marine Terminal (50%)
Metal Mark Inc. (50%)
Oronzio De Nora Impianti Elettrochimici S.A. (50%)
Sinor Corradini Navarra S.A. (50%)
Technovest Inc. (20%)
Bio-Ciencia/Lavosier Analysis Clinicas (40%)

Dow Chemical A.G. (A.G. is
owned 100% by The Dow Chemical Company)

Polychem Ltd (25%)

Coral Navigation (Coral is
owned 100% by The Dow Chemical Company)

Chief Shipping Company (50%)

Dow Chemical Company Ltd
(Ltd is 100% owned by Dow Chemical A.G.)

Cromarty Petroleum Company Ltd (50%)

Dow Chemical of Canada Ltd (Canada Ltd is
100% owned by The Dow Chemical Company)

Dowell Schlumberger Canada Inc. (50%)
Fort Saskatchewan Ethylene Storage Limited (50%)
Lawrason's Chemical, Ltd (20%)
Wabiskaw Explorations Limited (50%)

Maligne Resources Limited (Maligne is
100% owned by Dow Chemical of Canada Ltd)

MT Partnership (50%)

Dow Chemical Africa (Pty) Limited (Africa is
100% owned by Dow Chemical A.G.)

JV Chemicals (50%)

Dow Chemical International Energy Company (Energy is
100% owned by The Dow Chemical Company)

Canmar International Drilling Co. (50%)

Dow Chemical S.p.A. (S.p.A. is
100% owned by Dow Chemical A.G.)

Corradini Poliuretani S.p.A. (50%)

Dow Chemical Iberica S.A. (Iberica is
100% owned by Dow Chemical A.G.)

Transformadora De Etileno (50%)

Dow Quimica S.A. (Quimica is
100% owned by The Dow Chemical Company)

Estireno Do Nordeste (33%)
Expansao Correctora De Seguros Ltda (33%)

Merrell Dow Franca S.A. (Merrell Dow Franca is 100% owned by Merrell Dow Pharmaceuticals Inc.)

Biotic Algérie, S.A. (49%)
Biotic Maroc (49%)

Dofinco, Inc. (Dofinco is 100% owned by The Dow Chemical Company)

DCS Capital Partnership (33%)
DCS Capital Corporation (100%)

Dow Financial Services Corporation (Financial Services is owned 100% by The Dow Chemical Company)

Dow Banking Corporation (78%)
Dow Scandia Holdings Limited (52%)
Dow MBF Limited (54%)
MBF Leasing Hong Kong (26%)
MBF Leasing Kuala Lumpur (29%)
MBF Leasing Singapore (49%)